THE RUBBER AGE

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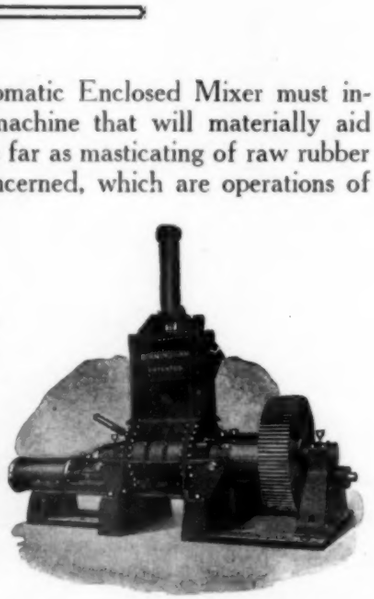

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Stabilizing the Rubber Plantation Industry

The most important project yet advanced in connection with the critical situation of the crude rubber trade is the attempt on the part of the Rubber Growers' Association of London to organize a £2,000,000 corporation to be known as the Rubber Producers' Corporation, Ltd. for the purpose of stabilizing and controlling the rubber plantation industry. This is surely an ambitious scheme and at first thought was regarded by many in the crude rubber trade in the United States as visionary and impossible of realization. All admit its desirability if it could be carried out, however, and when the great influence of such a body as the Rubber Growers' Association is backing the plan, it will go a long way towards making it possible.

Stocks of Rubber in Existence

The enormous stocks of crude rubber in existence, estimated as high as 300,000 tons is one of the most disquieting phases of the situation. For a year past spot rubber stocks in the United Kingdom have been increasing from month to month, according to the statistics issued by the Rubber Trade Association of London until what was apparently the peak of 78,883 tons was reached in May, 1921.

Spot stocks in the United Kingdom showed a slight decrease in June for the first time in thirteen months, the spot tonnage for that month being 78,465.

Although the decrease is small, yet the fact of any decrease is taken as a hopeful indicaton by the trade.

Importations into the United Kingdom have also been steadily decreasing until the imports for June stood at 5,889 tons, the smallest weight imported any month since May 1920. Stocks held in Singapore are estimated at about 70,000 tons, while no figures are available on stocks in the hands of manufacturers in the United States.

These facts all have a bearing on the statistical position, but as the Rubber Growers' Association points out, it is a grave situation confronting the rubber planters, and the British Government has declined to render any assistance in the form of restrictive measures leaving the producers to work out their own salvation.

We reproduce below in full the circulars setting forth the plan issued by the Rubber Growers' Association:

15th July, 1921.

To all Producers of Plantation Rubber

DEAR SIR(S),

Ever since it became apparent that grave difficulties were impending in the rubber plantation industry the Council of the Rubber Growers' Association have been engaged in the earnest consideration of schemes to meet the situation. As an immediate step, the Council recommended a restriction by 25 per cent. of the normal production of rubber from 1st November, 1920, and this proposal was accepted and carried out by over ninety per cent. of the Association's membership, but it has not received from non-members of the Association the support necessary to make it really effective.

Since that restriction came into effect the situation has become even more critical, yet over-production has continued.

It must be borne in mind that about one-third of the acreage of rubber planted in Malaya is owned by Chinese and Malays, the latter almost entirely in small holdings. Any idea of voluntary restriction is beyond them, but as they are nevertheless suffering acutely through the depression in the industry, the Association readily supported a request for the assistance of Government to impose some form of compulsory restriction of output or export on all producers in British Malaya. After much delay the Government declined to render any assistance in that direction, leaving the industry to work out its own salvation.

The war has been responsible for completely upsetting the calculations of those interested in the plantation rubber industry, whether as producers or consumers.

Approximately seventy per cent. of all the rubber consumed in recent years has gone into tires. War requirements accelerated the development of motor transport, and the post-war boom led everyone, including the manufacturers, to believe that the peace requirements of the world were greater than has proved to be the case. Vehicles used for military purposes consumed tires at an altogether abnormal rate when contrasted with what would be consumed by the same number of vehicles on ordinary civilian work. Furthermore, considerable improvements have been made in the construction of tires in recent years, particularly in the development of the so-called "cord tire," from which a much greater mileage is obtained than from the ordinary fabric tire. The importance of these improvements is obvious when considering the possible consumption of rubber during the next few years.

New Uses for Rubber

There are, of course, new uses to which rubber is being put, but the amount so absorbed does not appear to be likely to increase materially the consumption in the immediate future. Every new idea has to be put to protracted tests and requires new machinery before production can commence on a large scale.

The stabilizing of the price of rubber would undoubtedly be beneficial in expediting developments, as manufacturers would then be able to lay their plans with greater confidence than is possible when their raw material is subject to violent fluctuations.

It is advisable to recall that in 1914 the total rubber production of the world was 126,000 tons, of which some 77,000 tons were plantation and 49,000 tons wild rubber. Unrestricted production in 1921 would mount to about 360,000 tons of plantation and 30,000 tons of wild rubber, and the existing plantations alone are capable of yielding at the rate of 500,000 tons per annum within a comparatively short time. Notwithstanding the voluntary restriction agreed to in response to the Council's circular of 24th September, 1920, stocks of raw rubber in London and Liverpool have increased from 56,000 tons at 1st January, 1921, to 79,000 tons at the end of June, 1921. The present world stocks of rubber are estimated to be about 300,000 tons, which figure includes all rubber on estates, in transit to and at port of shipment, afloat, in warehouse at ports of arrival in consuming countries, and in the hands of manufacturers. The stocks necessary for the normal working of the industry may be taken as seven month's consumption, and at the present rate of consumption (20,000 tons a month) are about 150,000 tons. There would thus appear to be 150,000 tons of surplus rubber in existence.

The Council consider that, as no material relief can be looked for through early expansion in demand, producers are faced with alternatives of—

(A) Continuing to produce more rubber than is being consumed, thus adding to the surplus stocks, depressing the price still further, and bringing disaster to a large section of the industry: or

(B) Combining

(1) to regulate production to the extent necessary to ensure surplus stocks being absorbed and thereafter to keep pace with the requirements of manufacturers, and

(2) to regulate the sale of rubber, having first obtained the necessary financial support to do this effectively.

With regard to the whole question of combination and control, the principal factors to keep in mind are:—

(1) The existing world stocks of 300,000 tons.

(2) The potential 1922 output of over 400,000 tons.

(3) The potential 1922 consumption, which is unlikely to exceed 250,000 tons.

(4) The labor situation in the producing countries.

(5) The vitality of the rubber tree which, after reaching maturity, remains a potential source of rubber, even though upkeep is entirely neglected.

The accompanying scheme outlines what is believed to be a practicable method of achieving the desired rehabilitation of this great industry, but the task of securing the adhesion of 2,200,000 acres (about two-thirds of the existing planted area), the minimum deemed necessary to make the scheme effective, can only be accomplished in a spirit of co-operation. In ariving at this figure it is anticipated that no substantial acreage of native holdings can be brought into the corporation. Owing to excessive tapping in the past the major portion of these holdings acre for acre is inferior in yielding power to the European-owned estates, while their product is primitively prepared and not of standard quality. Only about one-half of the 2,200,000 acres is controlled in the United Kingdom, and the co-operation of the Dutch interests and of the principal local producers in the various Eastern countries is essential.

The Council have kept in close touch with the producers' organizations in other countries, and it is certain that there is now a nearer approach to unanimity than ever before in regard to the measures necessary to meet the situation.

Producers are asked to bear in mind that restriction alone can only be a temporary palliative. If restriction is left to the individual producer no stabilization would be possible, for as soon as the price rose to a profitable level again there would be a scramble for labor and over-production would again ensue, with a consequent slump in prices. An appeal is made to all producers to refrain from entering into further forward contracts as these must greatly prejudice the possibility of successfully establishing the Corporation.

The Council of the Association urge all producers to give the scheme for the formation of the "Rubber Producers' Corporation" their whole-hearted support.

Members of the Output Control Committee will gladly explain the scheme personally and appointments for this purpose can be made at the office of the Association.

A form of provisional assent is appended, which should be returned to me with the least possible delay.

Yours faithfully,

FRANK G. SMITH,
Secretary.

Primary Objects of the Corporation

(A) To control the rubber output of its members.

(B) To fix the selling price and regulate the sale of the rubber produced by its members.

(C) To regulate the opening of further rubber lands by its members.

(D) To purchase or make advances on the rubber harvested or to be harvested by its members.

(E) If deemed desirable to make advances on security and on terms to be agreed to approved rubber estates belonging to its members.

The Corporation will not exercise any functions in regard to the management or control of estates belonging to its members except in regard to the matters referred to in this clause.

Capital

Nominal capital £2,000,000 in 2,000,000 shares of £1 each. Borrowing powers up to an amount of £8,000,000, either by debentures or otherwise, of which a minimum of £3,000,000 is to be raised in the first instance.

It is proposed to allot the ordinary shares to rubber plantation companies or individuals owning plantations, upon joining the Corporation, in the ratio of one share for each planted acre of rubber they possess, in consideration of their entering into agreements binding the holders to conform to such conditions and regulations as the Corporation may impose with a view to carrying out the above objects, and of their subscribing for theses shares as follows:—

For every acre of mature rubber ..	2s. 6d.	per share	on application.
	2s. 6d.	" "	3 months after allotment.
	2s. 6d.	" "	6 " " "
	2s. 6d.	" "	9 " " "
" " " " immature rubber.	2s. 6d.	" "	on application
	2s. 6d.	" "	6 months after allotment.
	5s. 6d.	" "	when the acreage in respect of which such shares are alloted reaches maturity.

It is anticipated that it will not be necessary to call up the balance on the shares.

It is proposed that the Corporation shall include estates owned by British companies and individuals wherever situated and by companies or individuals in British territory or protectorates, while a similar corporation is to be formed simultaneously to include estates owned by dutch interests and by companies or individuals in the Netherlands East Indies. A working agreement would then be entered into by the two corporations to ensure conformity of action.

The agreements to be entered into between the Corporation and its shareholders and between the Corporation and the Dutch Corporation shall be for a first period of five years or until a resolution for the voluntary winding up of the Corporation is passed at a meeting of shareholders at which seventy-five per cent. of the capital is represented.

The Corporation will not go to allotment until the owners of at least 2,200,000 acres, inclusive of the Dutch Corporation membership, have agreed to come into the scheme.

Debentures

It is an essential part of the scheme that either:—

(A) The subscription of £3,000,000 of debentures shall be guaranteed before the Corporation is actually registered: or

(B) Satisfactory arrangements must have been made for finance to the extent of at least £3,000,000, in addition to the share capital.

Any member of the Corporation may subscribe to any debenture issue which may be made, but this is not obligatory.

The Articles of Association of the Corporation will provide for:—

(A) Transfer of shares to be effected only on a transfer of the relative estates.

(B) The introduction of new members from time to time on terms to be fixed by the court of directors.

(C) Enforcing the performance of the contracts and conditions entered into by shareholders with the Corporation.

Management

The control of the Corporation's affairs shall be in the hands of a court of directors (approximately one director to every 100,000 acres) representing as follows:—

London companies and proprietors owning estates in Malaya ..		6	directors.
" " " " "	Ceylon	2	"
" " " " "	Borneo	1	"
" " " " "	Sumatra .	2	"
" " " " "	Java	2	"
" " " " "	India & Burma	1	"
Ceylon local companies and proprietors		2	"
Malaya " " "		2	"
		18	
Representing debenture holders		3	"
Total		21	"

(Continued on page 340)

Experimental Vulcanization on the Small Scale

By D. F. Twiss and S. A. Brazier

For experimental work on a small scale vulcanization by means of high pressure steam possesses as its chief and almost sole advantage the fact that the procedure is similar to that customarily adopted in technical work. It is natural, therefore, that numerous attempts should have been made to simplify experimental vulcanization. The modification offering most advantages is that effected by introducing the use of a liquid heating medium, in which the molds enclosing the compounded rubber are immersed. Details of small-scale experimental apparatus based on this principle have been described by D. Spence and J. Young ("J. Soc. Chem. Ind.," 1912, 31, 1043), and by A. van Rossem ("Comm. Netherland Govt. Inst.," 1918, v., 138). The method adopted by the former was to immerse the molds in a bath of glycerine heated by the vapor of boiling xylene; this possesses an advantage in that a constant temperature is easily maintained, but the fire risk is considerable and the fixed temperature an undesirable limitation. The apparatus suggested by A. van Rossem is more convenient and can be used over an almost unlimited range of temperature. Considerable experience with a modified apparatus of this type has demonstrated its utility for the vulcanization of small samples so convincingly as to justify the following review of its merits.

Nature of the Vulcanization

The vulcanization bath consists of a stout sheet iron bath about twelve inches deep, fitted with a stout iron cover and of roughly fourteen gallons capacity. The bath may be rectangular or cylindrical, the latter shape possessing distinct advantages in use. In the cover are apertures (conveniently at least 10) for the introduction of the molds into the bath, each aperature having a detachable lid provided with a metal loop for a suspension of a mold. The oil selected should be a mineral lubricating oil of flash point above 250 deg. C., and during an experiment is kept agitated by a mechanical stirrer.

Electrical Heating Recommended

Electrical heating has been recommended for such purposes as this (see P. Schidrowitz, INDIA-RUBBER JOURNAL, 1920, 60, 649), but the use of gas as suggested by van Rossem has so much in its favor that we have adopted it exclusively. Even the advantage of reduced fire risk with electrical heating is relatively slight, because with an oil of high flash point and a well-constructed bath, gas heating gives no likelihood of fire at vulcanizing temperatures. Apart from this, gas heating possesses a great advantage in enabling occasional rapid changes of temperature, e.g., when at the commencement of a day's work the bath temperature is too low or when it is desired to make successive experiments at different temperatures. We have found it advisable to have two distinct burners, one being merely an auxiliary ring burner to supply additional assistance in raising the temperature; the burner for the maintenance of the constant temperature, when attained, consists conveniently of a piece of gas piping bent so as to form a square and one diagonal of dimensions rather less than those of the bath bottom, and with one side prolonged so as to extend beyond the side of the bath; the portion under the bath has perforations 2 mm. in diameter at intervals of one inch. This arrangement facilitates the uniform distribution of the heat, which is furthered by the continuous action of the mechanical stirrer inside the bath. The above dimensions are unsuited to a burner of the Bunsen type, but the same advantage of short flames and absence of soot is gained by introducing a little compressed air into the coal gas by means of a T tube before the gas reaches the burner. With this arrangement the maintenance of any desired vulcanization temperature with a variation of less than 0.25 deg. C. offers no difficulty.

Paper read at International Rubber Conference, London.

The advantages of such an arrangement as the above over the usual "vulcanizing pan," apart from the obvious and not inconsiderable one of cheapness of manufacture and working, are surprisingly numerous.

TABLE I.

A			B			C		
Time. Mins.	Extensibility.	T.S.	Time. Mins.	Extensibility,	T.S.	Time. Mins.	Extensibility,	T.S.
(40	947	0.58	20	722	0.85	20	720	1.19
	953	0.59	20	730	0.76	20	725	1.05
(60	835	0.81	30	636	1.52	30	635	1.21
	840	0.85	30	641	1.33	30	640	0.90
(80	749	1.11	40	580	1.52	(40	574	1.65
	755	1.16	40	590	1.79		579	1.51
			50	517	1.84	(50	534	1.59
(90	690	1.45	50	530	1.78		532	1.92
	693	1.29	(60	500	1.83		449	1.63
				500	1.75	(70		
(100	6[illegible]	1.53					460	1.91
	640	1.44	(70	640	1.41			
				642	1.40	(80	406	1.00
(110	589	1.27					430	1.20
	597	1.55	(80	646	1.44			
				632	1.52			
(120	558	1.28	(90	641	1.59			
	582	1.10		649	1.43			
			(100	635	1.68			
				640	1.64			
				625	1.65			
			(110	610	1.39			
			120	603	1.05			

Bracketed figures indicate results from samples in double molds.

Large rapid variations in the temperature of the oil-heating medium, which is in constant motion and at a uniform temperature throughout, are impossible, and any unusual small fluctuations are at once indicated by the thermometer in the bath. There is thus avoided the disadvantage in a vulcanizing pan that the temperature is generally registered indirectly as a steam pressure which requires constant adjustment, and that any direct record of the temperature has, as a rule, to be made by the unsatisfactory means of a heavily jacketed thermometer inserted only a short way through the shell of the vulcanizing pan.

High Internal Pressure Avoided

With the oil bath the troublesome high internal pressure is avoided with consequent disappearance of explosion risk and of the inconvenient voluminous liberation of steam into the atmosphere when a sample is withdrawn or a new sample introduced. The thermal capacity of the oil, also, is so much greater than that of steam that the introduction of a new sample need not appreciably affect the temperature, and consequently the progress of vulcanization of other samples already immersed; furthermore, the transference of heat to the rubber-containing mold is so rapid that the indefinite "rise" in steam-pan vulcanization is for all practical purposes eliminated, as also is the final ill-defined period of temperature reduction represented by "blowing off." The actual period of vulcanization is therefore closely commensurate with the period of immersion in the oil and is capable of measurement with an unusual degree of accuracy, the effect of any brief interval after immersion before the mold attains the full temperature being roughly compensated by the effect of the similar brief interval of cooling in the air after removal from the bath. This method of vulcanization indeed is so satisfactory that the customary vulcanization of a considerable number of samples for each period in order to enable the calculation of a more trustworthy average result is unnecessary. Satisfactory curves for the determination of the cure for optimum tensile strength are usually possible with a single sample for each period, while for the curve representing the reduction of extensibility at any fixed load a single sample is quite sufficient.

The general trustworthiness of this experimental method is shown by the following figures, in which the value of the extensibility at a load of 0.5 kg. sq. mm. for three mixings is recorded against the period of vulcanization; the values, if plotted, fall in a satisfactory manner along or near a smooth curve.

Results Obtained

Table I represents results obtained with a mixture of pale crepe rubber (90) and sulphur (10) vulcanized at 148 deg. C.

Table II represents the abnormal behaviour of a mixture of rubber (90), sulphur (10), with an additional 1 per cent. of zinc oxide and 1 per cent of hexamethylenetetramine (J.S.C.I., 1920) when vulcanized at 138 deg. C. But for the accuracy attainable with the oil bath the observation of the actual form of this abnormality in the curve could easily have escaped recognition.

TABLE II.

120 mins.	90 mins.	60 mins.	40 mins.	25 mins.
A_1	A_2	A_3	A_4	A_5
B_1	B_2	B_3	B_4	B_5
C_1	C_2	C_3	C_4	C_5
D_1	D_2	D_3	D_4	D_5

Table III represents the behaviour at 138 deg. C. of a similar mixing to the preceding, but containing 5 per cent. of zinc oxide.

Other examples of such concordant results may be seen in earlier papers (J.S.C.I., 1920, 39, 125T; Twiss and Howson, 1920, 39, 287T; Twiss and Thomas, 1921, 40, 48T. No reference has been made above of the occasional practice of using a "daylight" or "platen" press for experimental vulcanization; the previous comments on the uncertainty as to the actual temperature of a sample in a vulcanizing pan apply still more strongly to press-curing.

Such is the flexibility of the oil bath for experimental work in vulcanization that tests may easily be made over a range of temperatures extending in both directions beyond the practical range of a steam vulcanizing pan or press, thus experiments have been made at 98 deg. C., i.e., below the boiling point of water at atmospheric pressure, and at 188 deg. C., equivalent to a steam pressure of approximately 175 lb.; conversely wide variations are also possible in the possible period of vulcanization, which may extend from a few minutes to an indefinitely long period; short accurate "cures" are impossible with a steam pan.

A Satisfactory Mold

The type of mold suggested by van Rossem is very satisfactory in use, but it can advantageously be constructed double with a face plate bolted down on each side of the central disc bearing the suspension hook; it is then possible to double the number of samples which can be accommodated at any time by one bath, every mould then yielding duplicate samples each capable of giving a Schopper ring.

It will be seen that the number of vulcanized samples possible in a continuous spell of three hours could exceed twenty and with double molds the output of the bath could obviously be doubled. A further increase in the output could be effected by the introduction of more than one sample at a time, especially in the earlier portion of the period; this, however, renders the temperature regulation a little less easy.

It is important that approximately the correct quantity of rubber "compound" should be introduced; for this the weight is conveniently checked with the aid of a small letter balance, allowance being made for the specific gravity. The introduction of a small quantity of water into each mold as recommended by Van Rossem, or into each section of a double mold, is advisable. Apart from preventing the tendency to porosity in the vulcanized discs, this procedure has the additional interest of insuring inside the mold the steam pressure corresponding with the temperature and so reproducing in effect on the rubber the pressure conditions obtaining inside a steam vulcanizing pan at the same temperatnre.

Inclusion of Water

Mention may be made of a possibility of a disadvantage from the inclusion of water inside the mold; the matter, however, is not a serious one and is most unlikely to be experienced under the conditions of ordinary experimental work. If the heating of a soft vulcanizate is prolonged excessively, much beyond customary vulcanization periods, the rubber dissolves an appreciable, albeit small, quantity of the water, with the result that, if the mold is opened while hot, the released disc may swell to several times its proper size; this is due to the vaporization of dissolved water on removal of the external pressure. As the temperature falls the distended rubber shrinks to its normal dimensions.

For the careful comparison of the rate of vulcanization of different grades of rubber or of different mixings, particularly those intended for rapid repair work, the oil bath method is distinctly superior to other available methods; the results are accurate and reproducable (see above).

The capacity of a small bath capable of accommodating ten single molds at one time might at first glance appear to be rather limited, but this is not really the case. As stated above, good tensile strength and extensibility tests are obtainable with a single cure at each period, although it is advisable to vulcanize duplicate samples. This reduction in the number of samples vulcanized enables a considerable and often important economy in the quantity of "compound" required for a test.

Definite Plan Necessary

In order to make the best use of a vulcanizing oil bath it is necessary, however, to form in advance a definite scheme of work so that the places vacated by molds for which the vulcanization period is completed may again be shortly occupied by other molds or by the same molds refilled. In arranging the scheme of periods care should, of course, be taken for the provision of a sufficient period between the withdrawal and reintroduction of moulds for the emptying and refilling operations, if necessary; this period need not exceed five minutes. In order not to disturb the temperature appreciably it is advisable to introduce only one mold at a time, although several may be removed together. The preparation of the "time chart" does not need much time, and the scheme can be easily adjusted, if necessary, during its actual progress, e.g., in the case of unexpectedly rapid vulcanization.

For a set of twelve single molds and a bath capable of accommodating ten molds simultaneously, the following is a typical scheme allowing for the production of samples from four different compounds (A, B, C and D) vulcanized for 25, 40, 60, 90, and 120 minutes at any temperature.

TABLE III.

Time (mins.).	Samples Introduced	Samples Removed.	Vacant Places.	Time (mins.).	Samples Introduced	Samples Removed.	Vacant Places.	Time (mins.).	Samples Introduced	Samples Removed.	Vacant Places.
0	A_1		9								
5	A_2		8	65		A_1	1	125	B_4		2
10	A_3		7	70	C_1		0	130	C_4	A_2	2
15	A_4		6	75			0	135	D_4		1
20	B_3		5	80		B_1	1	140			1
25	B_2		4	85			1	145	D_3	B_2	1
30	B_1		3	90	D_2		0	150		B_1	2
35	C_2		2	95	C_2	C_3	0	155			2
40	A_5	A_3	2	100			0	160		C_2	3
45	D_1		1	105			0	165		B_3, D_1	5
50	D_5	A_4, B_3	2	110		D_3	1	170		C_3, D_3	7
55	B_5		1	115			1	175		D_4	8
60	C_1		0	120		A_5, C_4	3	180		C_5, ...D_5	10

ABSTRACTS

Technical — General — Commercial

Making Spongy India Rubber

C. L. Marshall has been granted a patent on a process for the manufacture of spongy rubber (see British Patent No. 162,176).

The manufacture of the rubber is carried out by vulcanizing in an atmosphere of an inert gas under a high presseure and a porous expanded mass is obtained thereby. In order to minimize the diffusion or the loss of the gas from the spongy mass a wax or resinous substance such as ceresin wax is added to the mixture. The wax or the resinous matter may be omitted from the outer layer, which then loses its gas and forms a resilient skin which prevents the interior of the mass from expanding excessively.

The apparatus used for carrying out this process consists of an inner shell or tube which is surrounded with an outer shell and provided with a heating jacket. The ingredients are placed within the inner tube. The ends of the two tubes are connected in such a manner that the compressed air which is admitted to the outer tube is allowed to enter the inner tube, containing the charge, when a certain pressure has been attained, through certain adjustable automatic valves. When this has been accomplished, heat is applied and the temperature and the pressure are gradually increased to the maximum valves of about 305 degrees F and 75 atmospheres pressure.

When the vulcanization is complete, the temperature is first reduced somewhat and then the outer shell is rapidly exhausted. The automatic valves situated between the ends of the two shells retain a pressure of about 100 pounds per sq. in. in the inner shell, which is allowed to remain until the product has cooled and is then released.

In working this process a mixture of rubber and balata may be substuted for pure rubber if it is desired, but the proportion of rubber should not be less than one third.

S. J. Peachey has been granted an additional patent supplementing his original patent on the cold vulcanization process. (see British Patent No. 162,429). In the new patent the process is modified by the application of one or both of the gases used at a pressure greater than that of the atmosphere.

The Removal of the Hard Rubber Layer Next to the Rim in Worn Out Solid Rubber Tires

Up to the present time in removing the hard rubber layer which lies next to the steel rim in solid rubber tires which have ridden so long that they are altogether worn out and must be re-shod, the method used to accomplish the same has consisted in simply burning off the rubber by means of an open flame. Because of the extremely unpleasant odor of burning rubber, this had to be done in the open fields. To overcome the disadvantage of working entirely out of doors in bad weather a closed furnace was devised in which this operation is carried out and which is provided with a chimney for the escape of the fumes of burning rubber.

It is not entirely certain that the hard rubber layer lying over the swallow tailed shaped slots can be drawn off in strips, when the steel rim together with the hard rubber layer is heated so that the rubber becomes soft and flexible. It may be that the rubber can be removed in strips when the inner surface of the steel rim is heated with a blow lamp until it is noticed that the sulphur between the steel rim and the hard layer begins to melt. Nevertheless the simplest and least costly method of removing the rubber from the steel rims and of cleaning them thereby is to burn off the rubber. Of course in this case the rubber is lost.

The Manufacture of Thick Rubber Tubes

A patent application has been applied for, German Patent Application No. 775,343, in which a process of manufacturing rubber tubes is described, which consists in coating a network of wire gauze with a solution of rubber. The wire gauze is wrapped around a cylindrical form which is drawn through the machine. In the forward part of the same, the rubber solution is fed through a hopper on to the gauze, the excess rubber running off and being collected in the bottom of the chamber and then being pumped back into the hopper. The rubber remaining of the gauze is evened off by means of two rollers, so that a tube of uniform dimensions is obtained. The tube then passes into the rear chamber of the machine where it is dried. This is done by having the tube, still fast to the endless cylindrical gauze form, pass through a number of turns of piping in which steam is introduced. After the tube is dry, it can be stripped off very easily and cut into any desired lengths.

The Vulcanization of Rubber, Regenerated Rubber and Like Mixtures on Metals

In order to make the rubber layer stick fast to the metal, an intermediate layer of a stocky, viscous balsamic like substance is interposed between the rubber and the metal. The balsamic like material sticks fast to the metal and to the rubber as well by which it is not absorbed. An example of such material is the by-products and intermediate products obtained in the manufacture of artificial rubber. (See German Patent No. 326541).

The Use of Glue in Rubber

British Patents 161,482 and 161,483 treat of the use of air dried glue in rubber mixtures. In the first patent, a process is described wherein air-dried glue, containing 5 to 15 per cent of moisture, is introduced into rubber by first making a mixture of glue and the unworked rubber and then subjecting the same to a milling action in a jacketed container. The temperature within the apparatus is maintained below 300 degrees F by external cooling. After this operation the mixture does not require any further drying and the remaining compounding ingredients are added in the usual manner.

The second patent refered to above discusses a method of adding fine powders, such as carbon black, in which the powders are not introduced directly into the rubber, but are first mixed uniformly into an emulsion of an aqueous solution or jelly of glue with benzine. After this is done, the mixture is incorporated into the rubber in the usual way.

Cyclo-hexanone and its Homologues, Cyclohexanol and its Esters as New Solvents

An article has appeared in the German publication, entitled "Auto-Technik" regarding the use of cyclohexanol, which is hexahyro phenol and cyclo-hexanone which is the ketone derivative of the same and various analogous substances belonging to the same class of organic compounds, in the dissolving of rubber both in the crude and the vulcanized condition. These solutions are then applied as a paint to the surface which it is intended to cover. It has been suggested that it might be possible to combine in a solvent of this nature the preserving properties of phenol so that the wood, that is coated with the rubber solution, will be effectively preserved as well. Whether or not this can be done is a matter of experimentation. It appears however that a rather novel and new use for rubber in solution has been evolved hereby.

A Process for Making Solid or Cushion Tires and Other Rubber Articles so as to Avoid the Formation of "Grain."

Dr. W. C. Geer of the B. F. Goodrich Co. has been granted an interesting patent on a process for making rubber articles and more particularly rubber tires, either of the solid or the cushion type, so that the rubber is prevented from graining and thereby the tendency of the rubber to peel or strip off the finished article is diminished to a marked degree. The process used breaks up the grain and serves to increase the serviceability and the life of the article due to the fact that the rubber is permitted to retain a greater degree of toughness and nerve because it requires less preliminary mastication, such as rolling, calendering and tubing the stock.

The rubber is compounded in the usual manner and the proper amount of sulphur to vulcanize the same together with accelerators, fillers and other ingredients are added. An ordinary roller mill is used and the rubber is run out in a thick sheet. The sheet is cut into the strips and the strips are then chopped up into short lengths, so that each piece of rubber contains a volume equivalent to that of a cube with sides half an inch long. The usual calendering and tubing stage is cut out.

The lumps of rubber are then pressed together while still warm from the previous operation or after they have been warmed up again. The lumps are arranged in moulds or forms, approximating the shape of the finished article, for example in the case of tires, the lumps are squeezed together within an annular form. It is aimed to obtain a single mass, free from voids, and the air is either squeezed out or a vacuum is applied to assist in the process.

The final step in the process is to mold and vulcanize the article under the proper conditions of pressure in a mold of the ordinary form. In the case of a solid rubber tire the soft vulcanized compound in the body or the tread may be treated in the manner described above, or both it and the hard vulcanized compound of the tire base may be so treated.

The result is a tire or rubber article which is entirely free from grain, There being no continuity of grain in any direction. The stripping, tearing and breaking away of the rubber from the article while in use is practically entirely overcome.

The patent in question is U. S. Patent No. 1,382,774, issued June 28, 1921 and assigned to the B. F. Goodrich Co. July 28, 1921.

A New Rubber Plant

The journals of Singapore and Hong Kong have announced the discovery of new rubber shrub, called octotilla, which grows wild wide-spread over very large aereas. A very appreciable amount of rubber can be obtained from this source and at the present time the factories are extracting about one ton of crude rubber a day from this plant. The ton of crude rubber will yield about 200 pounds of gum.

A Process for Making Elastic Fibrous Materials

The fibrous material, according to the Canadian Patent No. 208,397 granted to the Canadian Consolidated Rubber Co., is treated in the first place with a mixture of bees wax and castor oil. Then the fiber is given a coating of rubber which is fixed within the hollow interior of the fiber, surrounds and lends great elasticity to the same.

Stabilizing the Rubber Plantation Industry

(Continued from page 330)

Excepting those representing the debenture holders the directors are to be nominated in the first instance by the Council of the Rubber Growers' Association, who will obtain the nominations of the Ceylon local interests and Malaya local interests of their representatives on the court. The directors nominated by the Council shall come up for re-election at the first ordinary general meeting and thereafter one-third shall retire annually.

The directors will as far as practicable be elected by the shareholders grouped according to the countries in which their estates are situated, the local interests being grouped separately from the London interests.

Executive Board

Four members of the court of directors, of whom one shall be a director representing debenture holders, together with a manager and a secretary, shall form the executive board of management for carrying out the instructions of the court.

The manager must be a man of the highest business ability and standing, and the Corporation must be prepared to pay on a sufficiently generous scale to secure the best possible man.

The secretary should be a first-class accountant, capable of organizing and controlling the accounts of the Corporation with the utmost efficiency, and should be preferably a fully qualified and experienced chartered accountant.

Joint Advisory Board

A joint advisory board shall be established to ensure collaboration between the London Corporation and the Dutch Corporation, consisting of three members nominated by the directors of each corporation.

Remuneration

The remuneration of the court of directors shall be fixed by the shareholders in general meeting. The court shall fix the remuneration of the executive board and of the joint advisory board.

Output and Sales

(A) The output of rubber by members, including provision for young areas on their reaching maturity, will be regulated equitably by the court of directors and may be varied from time to time to meet market conditions.

(B) The court of directors shall fix from time to time the prices at which the rubber controlled by the Corporation may be sold.

(C) On all sales of rubber controlled by the Corporation there shall be paid to the Corporation a sum per pound to be fixed by the court of directors, which must be sufficient to enable the Corporation to pay the expenses of management, to pay interest on and to provide a sinking fund for the redemption of debentures, and to accumulate funds at the credit of its several members as surety for the due fulfilment of their obligations to the Corporation. If the charge in the first instance be fixed at, say, 1d. per lb., it is estimated that the revenue from this source together with interest on advances would yield an annual income which would be sufficient for the purposes indicated. This charge may be increased but shall not exceed 2d. per lb., without the consent of a general meeting.

(D) All rubber harvested by members will be consigned as at present and sold as authorized by the court of directors through the usual channels, the brokers being responsible for passing directly to the Corporation the charge before referred to.

(E) All forward contracts which existed on the 15th July, 1921, shall be notified to the Corporation on its formation and shall then be duly recognized.

General

Members must supply to the Corporation such information as it may call for in regard to the particulars of areas owned by them, the acreage of rubber mature and immature, the age of the trees, the crops harvested in the past, existing stocks, and such other particulars as may be required for the purposes of the Corporation.

NEWS OF THE INDUSTRY

News -- Personals -- Financial -- Building Activities -- New Products

Continued Improvement in Business

Encouraging Conditions Reported by Akron Rubber Manufacturers -- General Condition in Trenton District Good—Majority of Firms in Industry Report Steadily Increasing Sales

The most encouraging news received in Akron rubber circles this month comes from the B. F. Goodrich Rubber Co. in the form of an announcement that directors have declared the regular quarterly divided of one and three-fourths per cent on the preferred stock of the company payable October 1 to stock-holders of record September 21.

This action on the part of the Goodrich directors bears out a statement made in the columns of THE RUBBER AGE that most Akron rubber companies entered the last half of 1921 on a money-making basis.

Besides declaring the dividend on preferred stock, the Goodrich directors announce that the company has reduced bank loans since the first of the year from $29,000,000 to $14,000,000.

In explanation of their action, the directors said:

"Due to general prevailing conditions sales for the first four months were unsatisfactory, but since May 1 there has been a substantial increase and the liquidation of the inventory has been sufficient to enable the company to reduce bank loans since the first of the year approximately fifty per cent from $29,000,000 to $14,000,000."

Goodrich officers appear optimistic about the future for they express confidence in their statement to stock-holders that the company will be able to pay off the remaining bank loans by January 1, 1922.

General Business Good

Goodrich business, it is said, has kept pace with the substantial increases in the Goodyear and Firestone sales, both of which companies have been operating at near normal.

Reports from the Firestone Tire & Rubber Co. continue to be highly encouraging. The company is receiving its share of business from Ford on his big production of automobiles, it is said.

Sales experts in the tire divisions of the big Akron rubber companies, is is said, looked forward to August as the time when the sudden summer spurt in dealers' orders would show a decided falling off. Their expectations are being borne out, it is reported in Akron business circles. Goodrich, it is said, has reduced tire production fifty per cent for the month, while other companies have stopped employment offices from hiring more men for their tire departments.

But the leaders in the tire industry are paying no attention to expected sales slumps, Their eyes are on the future and they are firm in their belief that the industry has found certain footing and that there is a good, steady demand for their product in prospect.

Some of the smaller rubber companies are reporting better business in many lines.

The Eclat Rubber Co. at Cuyahoga Falls has equipped its new buildings and increased its production of hose connections for automobile radiators. The additions were made necessary when the company booked an order from the Ford Motor Car Co. for 1,000,000 lengths. A large percentage of the order has been filled but another order is expected later. The little factory is turning out 400,000 lengths of the hose each month and is working day and night.

The Falls Rubber Co. reports a tire production of 700 casings a day.

The Marathon Tire & Rubber Co., at Cuyahoga Falls, reports that present orders for tires will keep that department of the factory busy until the first of the year. This company is going into the manufacture of specialities such as men's belts, golf bags and hand bags on an extensive scale.

The Mason Tire & Rubber Co., at Kent, is continuing active in tire production. This company recently was forced to come to Akron to get experienced tire builders and finishers to increase production to keep pace with orders.

Recent figures obtained by statistical experts employed by Akron business organizations show that the Akron district has manufactured only 6,000,000 tires so far this year and that the demand is certain to keep tire departments busy in order to forestall an acute shortage of high-grade casings in the near future.

Conditions in Trenton

Some of the Trenton tire manufacturing concerns report business very brisk while others say that conditions are not so good. The manufacturers claim that there ought to be a larger demand for tires at this time of the year and can give no reason for conditions. The Globe Rubber Tire Manufacturing Company has a double shift of tiremakers at work, while the Acme Rubber Manufacturing Company and Thermoid Rubber Company are employing a night force. The Empire Tire & Rubber Corporation is now doing a good business under two receivers and is looking for a big fall trade. The Bergougnan Rubber Corporation reports good business.

The mechanical line is not very good at this time, while the scrap rubber business shows a decline. The Nearpara Rubber Company is operating to capacity, but reports business behind as compared with the summer of 1920.

The Smith Rubber & Tire Company, Inc., of Garfield, N. J. reports business on the increase and expects to place a night force at work soon. Early last spring the company erected a plant at Garfield at a cost of $500,000. The concern is being run on a monthly dividend paying basis. Winfield Clearwater is president of the Smith Company.

Palmerton to Head Industrial Division

As a part of its plan to co-operate with the Department of Commerce, the Rubber Association of America, has granted a leave of absence to P. L. Palmerton, manager of the association's Foreign Trade Bureau, to enable him to accept a position as chief of the Rubber Industrial Division in the Bureau of Foreign and Domestic Commerce. It is the intention of the Bureau of Foreign and Domestic Commerce to establish from twelve to fifteen such divisions, each of which will maintain and strengthen the contact between a particular industry and the Bureau and will use the facilities of the Bureau to the fullest extent for increasing foreign trade in the commodity represented.

Mr. Palmerton's absence from the Association office will not mean a lessening of foreign trade work or interest on the part of the Association. The service functions of the Foreign Trade Bureau substantially will be transferred to Washington and when that is impracticable the work will be handled by the Association in New York. Mr. Palmerton will continue close contact with the Association's Foreign Trade Division, will attend its meetings and will have at his command the facilities of the Bureau of Foreign and Domestic Commerce for giving rubber goods exporters superior and specialized service.

F. A. Seiberling with New Castle

Word has been received to the effect that Frank A. Seiberling, former president of the Goodyear Tire & Rubber Co., Akron, Ohio, will take possession of the New Castle Rubber Co., New Castle, Pa., which was recently purchased for $103,000. It is stated that Mr. Seiberling will take charge and begin operations as soon as the sale has been confirmed by the court.

Cleveland Rubber in Production

The Cleveland Rubber Corporation Co., after many delays caused by labor troubles in the Cleveland building trades, and difficulties in receiving certain equipment, is now in production on a quantity basis. Production is being increased rapidly according to J. J. Monahan, sales manager of the company, and will soon be near capacity.

The location the company has selected for its site is in the center of an exceptional skilled labor market, and as a large percentage of the workers own their own homes the supply is constant. The first unit of the plant, which has recently been completed, contains over 80,000 square feet, with general offices and administration department housed in a

PLANT OF CLEVELAND RUBBER CORPORATION, CLEVELAND, OHIO

separate building. Due to economy in layout of space and efficiency of equipment the production possibilities of the first unit will be much higher than is usual with the same amount of floor space. The possible production with the present facilities of the company is 1,000 cord casings and 2,000 tubes per day.

Ole Hibner, president of the company is a rubber man with many years of experience behind him, both with manufacturers, and as a large distributor, and is well known in the industry. Mr. Hibner was formerly general sales manager of the Knight Tire & Rubber Co., and previous to his connection with that company was with Firestone and Victor.

The name of J. J. Monahan, sales manager, will also be familiar to many in the sales end of the rubber industry. He has done regular and special sales work with several of the larger companies, and during the war took care of the Government's rubber requirements in this and several European countries.

E. A. Armstrong, general superintendent of the company, is a real veteran in the industry, having entered it as a boy over twenty-eight years ago. Immediately previous to coming with the Cleveland Rubber Corporation Co. Mr. Armstrong was general superintendent of the India Tire & Rubber Co., Akron, Ohio.

Mr. Monahan states that the company will adhere to its original policy of building only high grade cord tires and Cleveland red inner tubes and giving the consumer the benefit of the lowest possible price on a quality product. The distribution plan of the company is unique, and the idea of helping the dealer sell his tires through direct factory representatives connected with district offices, is meeting with much success throughou the dealer organization, who seem to be enthusiastic about the plan.

Goodrich Declares Dividend

Directors of the B. F. Goodrich Co., today declared the regular quarterly dividend of one and three quarters per cent on the preferred stock of the company, payable October 1, to stock holders of record September 21. Announcement of the dividend came as good news to the business district, which saw in the report, another important stride toward better times in Akron.

"Due to general prevailing conditions," the report continued, "sales for the first four months were unsatisfactory, but since May 1, there has been a substantial increase and the liquidation of the inventory has been sufficient to enable the company to reduce bank loans since the first of the year approximately fifty per cent from $29,000,000 to $14,000,000."

Officers of the company seem optimistic about the future for they express confidence in the report, that they will be able to pay off the remaining bank loans by January 1, 1922.

New Crude Rubber Brokerage Firm

J. William Oliver, Louis V. Keeler and Seldon S. Scudder have formed a copartnership under the name of Oliver, Keeler and Scudder to conduct a brokerage business in crude rubber and kindred products with offices at 24 Stone Street, New York.

Mr. Oliver, who for some years has been manager of the crude rubber department of the Rogers-Pyatt Shellac Co., leaves this month to visit the primary markets in the Far East returning by way of London. Mr. Keeler and Mr. Scudder have been connected with the crude rubber business for several years and are favorably known in the trade.

Cord Tire Enlarges Plant

The Cord Tire Corporation, of Chester, West Virginia, have recently increased their plant by the addition of 4,000 square feet of floor space for receiving, shipping and storing purposes, and have installed considerable additional machinery. They report excellent demand for their Superior Cords making day and night shifts necessary in the operation of their plant.

Goodyear Adopts Budget System

Reductions of wages of Goodyear Tire & Rubber Co. employes became effective August 2, following the adoption of the new budget system.

It was said budgets for operating expenses were cut from ten to twenty per cent, wages being affected in similar proportion.

Departments must hold expenditures within the limit of their respective budgets, according to the order issued by President E. G. Wilmer. Some departments were consolidated.

The resignation of several old employes resulted from the reorganization, as follows:

George Rogers, manager of the company's legal and credit departments, with the company for twenty years.

Don Stevens, in charge of the labor department; Marshall Morris, former assistant general manager of the Los Angeles plant and recently in charge of the new stock issues during refinancing period; Harry Blackburn and F. F. Dugan, in charge of sales personnel.

C. C. Prather, manager of the products department, has been transferred to the sales department and assigned to Cincinnati as general line salesman.

W. D. Shilts, former chairman of the old board of control has been assigned to inspect Goodyear branches and install budget systems.

Flap Manufacturers Move

The R. H. Schwartz Flap Mfg. Co., Cleveland, Ohio, who specialize in the manufacture of tire flaps, boxed for the dealer trade and in bulk for tire manufacturers have removed from their former factory 3226 Euclid ave., to their new plant at 3708 Payne ave.

Hudson Garter Incorporates

(Special Trenton Correspondence)

The Hudson Garter Company, of Newark, N. J., has been incorporated with $100,000 capital to deal in rubber goods. The incorporators are Jacob Shulman and Isaac Hartman, of Harrison, N. J., and Joseph Shulman, of Newark, N. J.

Receiver Appointed for Knox

French W. Severns, of Mount Vernon, Ohio, has been appointed and duly qualified by the Court of Common Pleas of Knox County, Ohio, as receiver for the Knox Tire & Rubber Co., of Mount Vernon. Announcement has been sent to creditors notifying them to present and file their verified claims.

Hunter Dry Kiln Exhibits

One of the interesting exhibits seen at the recent Fifth International Rubber and Tropical Products Exhibition in London was that of the Hunter Dry Kiln Company, manufacturers of automatically controlled humidity dryers, Indianapolis, Ind. The exhibit showed the well-known Hunter process in operation and was enthusiastically commented upon by the various British trade publications. Harry Hunter was in charge.

Personals of the Trade

Personnel Changes in Akron—Hurst to Represent Birmingham—California Officials Visit Goodyear—Firestone Attends Annual Outing—Culp Appoints Hanse—Fisk Promotes Watson

Personnel Changes in Akron

(Special Akron Correspondence)

Reorganization of the many different departments in the great rubber companies in Akron still continues. Many changes in personnel are being made and many department managers and officials are having their duties radically changed.

The Firestone Tire & Rubber Co., it is reported, has limited the activities of its development department for the present and has reduced the number of experts employed for development purposes.

Clifford T. Crudington, former editor of the *Goodyear Tire News,* has left Akron for Council Bluffs, Iowa, where he is to act as general line tire salesman for the western district.

W. McDaniel, former editor of *The Triangle,* published for Goodyear salesmen, will edit the *Tire News* which has been revived after several months suspension. Harold King of the sales educational department will edit *The Triangle.*

Hurst to Represent Birmingham

The Birmingham Iron Foundry announce the appointment of George L. Hurst as Pacific Coast representative to handle their well-known line of rubber mill machinery in that territory, with headquarters at 544 Market St., San Francisco.

While comparatively a newcomer in the rubber field Mr. Hurst is an engineer of ability and wide experience in designing, constructing and selling machinery in other lines. He is a graduate of the Engineering College of New Zealand, a member of the American Society of Mechanical Engineers, and he has seen extensive service in the engineering field in many countries of Europe and other parts of the world.

Birmingham has in him an able representative to look after their interests in the growing rubber industry on the Coast.

California Officials Visit Goodyear

(Special Akron Correspondence)

A. F. Osterloh, vice-president and general manager; C. C. Slusser, general superintendent; J. R. Reilly, sales manager; W. A. Vaughan, treasurer of the Goodyear factory at Los Angeles were in Akron the latter part of July for a conference with the new officials of the Goodyear Tire & Rubber Co. The western plant is showing a steady growth the present daily output being 3,500 casings and 4,000 tubes.

Replogle Witness at Trial

Hartley L. Replogle, in charge of the Eastern business of the Tamms Silica Company, Chicago, was one of the principal witnesses at the trial of the former members of the Chicago American League baseball team who were accused of "throwing" the 1920 world's series to the Cincinnati team. Mr. Replogle handled the inquiry and the indictment of these players before the Grand Jury and was one of the most valuable witnesses for the American League.

Firestone Attends Annual Outing

H. S. Firestone, president of the Firestone Tire & Rubber Co., Akron, Ohio, recently participated in the nationally known outing which he has annually taken in company with Henry Ford, Thomas Edison and John Burroughs. Owing to the recent death of the last-named other members were added to the well-known group. These were none other than Warren G. Harding, President of the United States and Bishop William F. Anderson, of Cincinnati. The outing was held in the Blue Ridge Mountains in West Virginia.

PRESIDENT HARDING, H. S. FIRESTONE AND THOMAS A. EDISON AS CAMPERS

Batavia Office in New Location

The office of M. H. Bochow, president of the Batavia Rubber Co., Batavia, N. Y. is now located at 30 East 42nd street, New York City.

Culp Appoints Hanse

George K. Culp Inc., New York announces the appointment of J. J. Hanse as director of production. For the past ten years Mr. Hanse has been connected with the United States Tire Company as a department executive and his experience there makes him particularly well fitted for his new connection. Mr. Hanse states he believes the Culp Plan of manufacturing and merchandising is sound, meritorious and has great possibilities.

Fisk Promotes Watson

The Fisk Rubber Company, of New York has just announced the appointment of F. A. Watson to the position of manager of their Grand Rapids branch, succeeding William T. Dorgan, resigned.

Mr. Watson has been associated with the local Fisk branch as salesman for the past four years in which position he met unvarying success and his appointment as manager comes as a well earned promotion.

Blandin in Crude Rubber Business

Victor C. Blandin, formerly Akron representative of Pell & Dumont, is now in the crude rubber brokerage business for himself. His office is in the Ohio State Savings & Trust Building opposite the Goodyear plant on East Market street, Akron, a central location for the great number of manufacturing plants of all kinds located in Akron's eastern industrial district.

Gunlock with Dryden Rubber

William M. Gunlock, formerly head of the heel and sole department of the United States Rubber Co., has been appointed a vice-president in charge of the heel and sole departments of the Dryden Rubber Co., Chicago.

Fink Opens Offices

Victor W. Fink is now engaged in the crude rubber brokerage business at 24 Stone street, New York. He was formerly with the Rubber Importers' & Dealers' Co., and later was manager of the crude rubber department of the E. S. Kuh & Valk Co.

Bonstedt Representing Pell & Dumont

F. A. Bonstedt, well known in the crude rubber business in Akron, now represents Pell & Dumont, the crude rubber brokers of 9 Hanover Street, New York. He is located in the Ohio Building, Akron.

Meeting of American Chemical Society

The fall meeting of the American Chemical Society will be held with the New York Section, Tuesday, September 6 to Saturday, September 10. This will probably be the largest meeting of the American Chemical Society that has ever been held. Aside from the 2,500 members of the New York Section itself, many thousands are within a four or five hours' ride of New York.

In addition to the usual features there will be as guests at this time a considerable number of British and Canadian members of the Society of Chemical Industry who will have held their annual meeting in Canada, will be greeted at the border by the Governor of New York State, and will arrive in New York on Wednesday morning, September 7. After being the guests of the American Section of the Society of Chemical Industry at a luncheon September 7, they then become the guests of the American Chemical Society for the remainder of the week. The Association expects at least three or four hundred of these British and Canadian friends, besides three or four thousand from the American Chemical Society. All members of the American Chemical Society are invited to the meeting in Montreal, beginning August 29.

A further reason for this being a large and successful meeting is the opening of the National Exposition of Chemical Industries on September 12, immediately after the close of the meeting. A great many guests from all over the United States who visit this exposition each year, will come a few days earlier to attend the meeting of the American Chemical Society.

Trenton Agency for Mason

(Special Trenton Correspondence)

The Grizzly Rubber Company, of Trenton, N. J., has been given the Trenton agency of the Mason Tire & Rubber Company and will handle these tires for the territory surrounding Trenton. Richard R. Rogers, president of the Grizzly Rubber Company, is well known in the tire industry. For a number of years he was identified with the Empire Rubber & Tire Corporation, both in the manufacturing end and as a salesman.

Connecticut Rubber Expands

The Connecticut Rubber Company, of Hartford, Conn., has bought the Slade factory in the nearby village of Oakville, in which to manufacture automobile tire tubes and tube protectors, a new invention. The company operates a factory in Yale, Okla., which is reported to be running on full time. The local factory will employ about 100 hands.

Mead Rubber Plant Closes

The Meade Rubber factory, situated in Stoughton, Mass., has shut down for several days, intending to reopen shortly. In the meantime the largest engine in the town is being installed. Several other changes are being made, the presses are being moved into the heel room, and alterations completed on the upper story.

Falor Manufacturing Co. Formed

Shelby A. Falor, well known in the rubber industry, is at the head of a new Akron rubber manufacturing concern, which has just been incorporated. The company, known as the Falor Manufacturing Company, has taken over and is now operating a plant especially equipped for the manufacture of automobile tubes, and production is already under way.

SHELBY A. FALOR

Shelby Falor, for the last twenty years, has been connected with the Goodyear Tire & Rubber Company, for the greater part of that time being in charge of their motorcycle tire department, and is a familiar figure in that branch of the industry. Having spent practically all of his business life in the rubber industry he has a very wide acquaintance throughout the trade from his connection with the selling end, and he also has a complete and thorough knowledge of the production features of the business.

Mr. Falor and his factory experts, all veterans at the business, will specialize in the manufacture of a high-grade brand of tubes.

Receiver Obtains Judgment

(Special Akron Correspondence)

Default judgments totalling $7,762.25 have been handed down in the common pleas court in Akron in suits filed by Elihu Harpham, receiver for the Interlocking Cord Tire Co., against thirty-three subscribers for stock who have not paid the full amount of their subscriptions.

Federal Passes Dividend

The Federal Rubber Company has passed the quarterly dividend of 1¾ per cent in the preferred stock, due at this time.

Automotive Groups Organized

The new group plan of the Motor and Accessory Manufacturers Association is now under way following the organization of the sheet metal manufacturers as the first industrial unit.

At a meeting held last week at Detroit, representatives of several of the principal sheet metal manufacturers doing business with the automotive industry voted unanimously to organize the sheet metal group of the Motor and Accessory Manufacturers Association, in accordance with the organization plan approved by the Board of Directors and recently promulgated by M. L. Heminway, General Manager of the Association.

Under this arrangement the four hundred companies now affiliated with the Motor and Accessory Manufacturers Association will be divided into a number of groups, each of which will comprise manufacturers of the same products, and each of which will have officers and meetings of its own, but for general purposes affiliated with the parent organization.

All members of the group must be members of the Motor and Accessory Manufacturers Association.

Plans are now under way for the early organization of several other groups in the Association including units for the various divisions.

A significant feature of the plan is an arrangement whereby the Chairman of all groups constitute an Advisory Committee to the executive committee of the Board of Directors of the Association and an Advisory Board to the General Manager of the Association. The President, first Vice President, Secretary and General Manager and General Counsel of the Association are ex-officio members of all groups.

Venezuelan Rubber Prospects

With the strengthening of diplomatic and commercial ties between the United States and Venezuela the systematic and thorough exploitation of Venezuela's great wealth in rubber forests is being brought definitely nearer.

At present it is estimated that not more than $1,200,000 is invested in the rubber industry in Venezuela, despite the fact that there are millions of acres of rubber forests in the Orinoco, Cassiquiare and Rio Negro sections of the country. The principal species of rubber tree found there is the Hevea although there are other varieties.

Due to the fact that most of the rubber comes from that section of Venezuela which borders on Brazil, it is exported from the Brazilian port of Para and reaches the United States as of Brazilian origin.

At present the cultivation of rubber is being carried on in an unscientific manner; it is gathered by Indians in an extremely primitive way, and the yield per tree is only a fraction of what it would be if modern scientific methods were introduced. American capital would doubtless be welcomed in this industry by the Venezuelan government, which is pursuing an extremely liberal policy.

News of the Rubber Association

Rubber Industry Questionnaires Issued—Divisional Meetings—Pulley and Belt Standardization—Changes in Freight Rates Announced—Statistics of Calendered Rubber Clothing Manufacturers Division

Rubber Industry Questionnaires

The Rubber Association of America has recently sent to members and non-members, rubber manufacturers, importers, brokers and dealers the usual semi-annual questionnaires covering the first half of 1921. These are accompanied by the following announcement by General Manager A. L. Viles:

"There is enclosed the usual semi-annual questionnaire (in duplicate) which this Association has used for several years in the compilation of data concerning the rubber industry. This one, however, is presented in a somewhat different form due to its being broadened to include data as to the total inventory of crude rubber held by manufacturers and importers, brokers and dealers. This important information has not been compiled since during the war period, and present conditions have led your board of directors to approve a suggestion emanating from the Association's Crude Rubber Committee that the distribution of data of this sort would be very helpful to the industry.

"By authorization of the directors also, this questionnaire and future similar ones will be compiled in the office of the Association instead of by the trust company which has heretofore handled this work, because our experience with the past three questionnaires led your Directors to believe that the statistics can be compiled much more efficiently and economically in the Association office. Because of the importance of the data to be reported by each company (particularly the crude rubber inventory) a code has been devised to cover the identity of each company, which makes it unnecessary for any company name to be connected with the report, and the key to the code is available to no one except the General Manager and Assistant General Manager of the Association. The code designation for your company is stamped on the back pages of the enclosed questionnaire. Further to minimize any possibility of the confidential data from any company going astray, every individual questionnaire will be returned as soon as the totals are compiled with a copy of those totals.

"The importance of this statistical work is emphasized particularly at this time by the interest of Secretary Hoover of the Department of Commerce in the dissemination by his Department to the business public of the United States of timely facts as to the condition at frequent intervals of the basic industries of the country, viz., iron and steel, coal, lumber, oils and chemicals, cotton, wool and silk, leather, automobiles, rubber, etc. This he believes, will be very helpful to the manufacturing and distributing machinery of the United States by making available, from time to time, a comprehensive, clear picture of general business conditions.

"The data desired by the Department of Commerce particularly is monthly reports of the inventory of principal raw materials and finished products and the production and sales of finished products in the major industries, which will be obtained through the co-operation of trade associations representing those industries, whenever possible. The Rubber Association, through its board of directors and management, has conferred with Mr. Hoover and has assured him of its co-operation. In this connection, the executive committee of the Tire Manufacturers' Division has authorized the transmission to the Department of Commerce of the monthly grand totals representing the inventory, production and shipments of tires and tubes, and the amount of cotton fabric and crude rubber consumed thereby, and it is probable that divisions representing other branches of the industry will authorize the transmission of similar data compiled for them by the Association."

Meeting of Tire Division

The first of the quarterly meetings of the Tire Manufacturers' Division will be held in New York on Thursday, September 22. The executive commmittee of the division will hold its regular monthly meeting on the previous day and such recommendations as may be formulated then will be considered at the meeting of the division. The executive committee is now working on a number of important subjects, among them being the matter of mileage adjustments and protection against price declines.

Proofers to Meet in Boston

A meeting of the Rubber Proofers' Division will be held at the Copley-Plaza Hotel, Boston, on Wednesday, August 10 at 10:30 a. m. (Daylight Saving Time). A number of important matters will be discussed among them being the following: Rules for inspection of automobile top and curtain materials; contract conditions for proofers of automobile fabrics held by proofers; shrinkage allowance on rubberized fabrics; insurance for account of customers on unrubberized fabrics held by proofers; amount of second quality goods which should be furnished on orders for automobile top material when the jobber furnishes the cloth to be rubberized.

Work on Pulley and Belt Standardization

The Engineering Sub-Committee of the Mechanical Rubber Goods Manufacturers' Division, which was appointed some time ago to study the subject of the use of rubber belts in transmitting power and the standardization of pulley and belt sizes has progressed its work to the extent of completing individual reports by members of that committee on specific phases of the subject assigned to them.

It is probable that a meeting of the sub-committee will be called for the near future in order that the report, prepared by each member, may be discussed by the Committee and definite conclusions reached by that body as a whole.

In this connection, with the approval of the executive committee of the Mechanical Rubber Goods Manufacturers' Division, all rubber belting manufacturers will be asked to assist in the sub-committee's investigation by contributing such data or ideas as they may have acquired with reference to the subject, in order that the Committee's work may cover as broad a field as possible.

Reduced Rates on Pneumatic Tires in Less Than Carloads Effective August 31

Previous announcements of the Association have stated that the rating applicable on pneumatic tires, when in wrapped bales or wrapped bundles, less carloads, had been reduced from 1½ times first class to first class in all classification territorities, and that the effective date would be announced later.

The Traffic Department of the Association has now been informed that these reduced rates will become effective on August 31, 1921.

Illinois State Classification Rating on Pneumatic Tires Reduced

Following the action of the Consolidated Freight Classification Committee, and at the request of the Traffic Committee of the Rubber Association, the Illinois State Classification, which applies on shipments moving wholly within the State of Illinois, has been amended to provide for a reduction in rating on pneumatic tires in wrapped bales or wrapped bundles, less carloads, from 1½ times first class to first class, to become effective August 10, 1921.

Rates on Rubber Products to Pacific Coast Points Reduced

As a result of the negotiations of the Association's Traffic Committee with the Trans-Continental carriers, the following rates on rubber products in carloads to Pacific Coast points will be published to apply from all Eastern groups, Atlantic Seaboard and points west thereof:

Belting, hose and packing—$2.10 per 100 lbs., representing reductions from the former rates ranging from 7 per cent to 21 per cent.

Rubber and felt boots and rubber shoes, or rubber shoes with canvas tops—$2.30 per 100 lbs., representing reductions from former rates of from 1¼ per cent to 14 per cent.

Pneumatic tires and tubes for export —$2.50 per 100 lbs., representing a reduction from the former rate of 25 per cent.

The effective date of these changes has not yet been announced, but the rates will be published as soon as certain details are arranged by the railroads with the Interstate Commerce Commission.

Calendered Rubber Goods Statistics

To the Calendered Rubber Clothing Manufacturers' Division of the Rubber Association belongs the credit for being the pioneer among the Association's divisions in the preparation of monthly statistics concerning production, orders, etc., which has recently assumed important proportions as a result of development of interest by other divisions in similar statistics for their branches of the industry.

Members of the Calendered Rubber Clothing Manufacturers' Division arranged, as far back as the fall of 1918, to co-operate in a monthly report of the production and net and gross orders of all members covering four of the major products in the calendered rubber goods line.

The detail of handling the individual reports and preparing and distributing the totals was originally performed by a privately operated statistical organization in Boston, but was taken over by the Rubber Association office on January 1, 1920, where it is now handled.

For such interest as it may hold for members of the Association not intimately connected with this statistical work there is reproduced in the adjoining columns a set of charts with accompanying detail presenting the status of the calendered rubber coats and sundries industry during 1920 at monthly intervals, expressed by production and net orders data.

There is presented also in the following a comparison of production and net orders in 1920 and 1919 expressed by percentage of increase or decrease which is predicated upon the totals for the entire industry.

Calendered Rubber Goods—
1920 vs. 1919

Production	
Flat sundries	Increase 60 per cent
Make-up sundries	Increase 27 per cent
Men's coats	Decrease 4 per cent
Boy's coats	Increase 53 per cent
Net orders	
Flat sundries	Increase 27.5 per cent
Make-up sundries	Decrease 35 per cent
Men's coats	Decrease 17 per cent
Boys' coats	Increase 9.5 per cent

Receivership for Ohio State

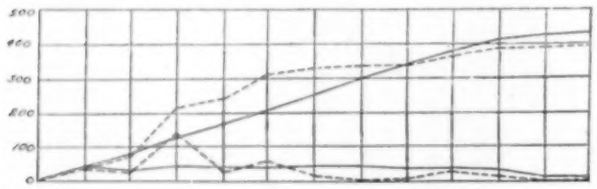
Appointment of a receiver to take over the factories and business interests of the Ohio State Rubber Tire Co. of Port Clinton, O., was asked in a bill of complaint filed in United States district court in Toledo recently by the Edward Maurer Co. of New York.

In an answering petition, recently filed the tire company admitted all of the allegations of the plaintiff and agreed to the appointment of the receiver by the Court.

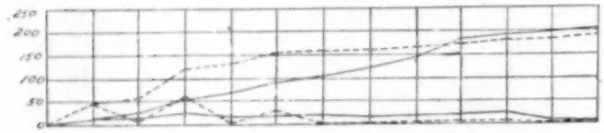
Trenton Firms in Venezuelan Fair

(Special Trenton Correspondence)

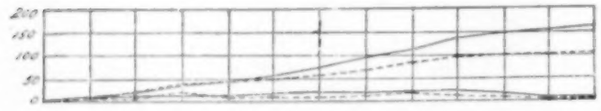
Among the Trenton rubber concerns that will take advantage of the free space offered for the showing of goods at the trade exposition to be held at Caracas, Venezuela, in the fall are the Acme and the Essex concerns. Other Trenton rubber companies may later accept the same offer. Both the Acme and the Essex companies will have modern exhibits at the fair and will translate pamphlets of their products into Spanish.



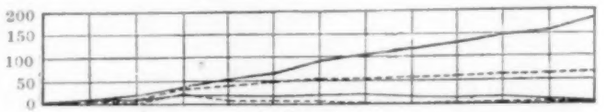
CALENDERED RUBBER COATS, MEN'S



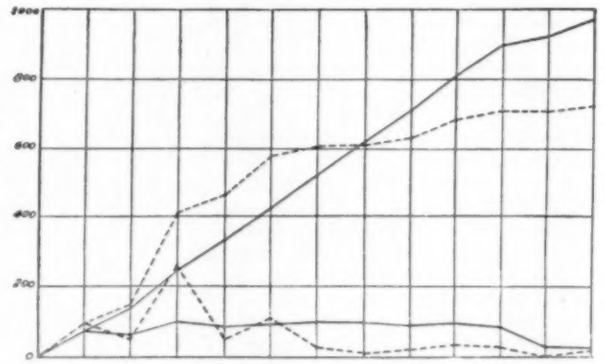
CALENDERED RUBBER COATS, BOY'S



CALENDERED RUBBER SUNDRIES, FLAT



CALENDERED RUBBER SUNDRIES, MADE-UP



CALENDERED RUBBER COATS AND SUNDRIES (TOTAL)

In the above diagrams the solid line represents production; the dash line represents net orders; the upper curve indicates the total cumulative at the close of each month while the lower curve represents the total by months. The following tables give the status of the various items with respect to production and net orders at monthly intervals.

CALENDERED RUBBER COATS AND SUNDRIES (TOTAL)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Production—	148,496	248,717	335,340	427,488	527,744	625,565	715,942	815,014	900,228	938,172	969,451	
	77,681	70,815	100,221	86,623	92,148	100,256	97,821	90,377	99,072	85,214	37,944	31,279
Net Orders—	154,855	409,493	464,454	574,022	605,126	614,318	639,090	685,730	714,964	714,964	736,529	
	98,824	56,031	254,638	54,961	109,568	31,104	9,192	24,772	46,640	29,234		21,565

CALENDERED RUBBER COATS, MEN'S

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Production—	79,668	126,382	168,435	211,065	255,422	300,084	338,511	380,253	415,754	427,554	439,226	
	44,979	34,689	47,714	42,053	42,630	44,357	44,662	38,427	41,742	35,501	11,800	11,672
Net Orders—	74,703	219,978	248,431	312,383	328,743	330,290	337,549	365,918	383,502	383,502	386,947	
	42,607	32,096	145,275	28,453	63,952	16,360	1,547	7,259	28,369	17,584		3,445

CALENDERED RUBBER COATS, BOY'S

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Production—	26,389	52,363	70,052	89,050	108,532	125,203	143,611	163,339	187,034	198,531	207,632	
	12,264	14,125	25,974	17,689	18,998	19,482	16,671	18,408	19,778	23,695	11,447	9,101
Net Orders	56,771	121,974	133,223	162,445	166,079	168,347	169,919	174,006	178,226	179,013	189,904	
	42,005	14,766	65,203	11,249	29,222	3,634	2,268	1,572	4,087	4,220	787	10,891

CALENDERED RUBBER SUNDRIES, FLAT

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Production—	21,023	30,429	41,200	56,798	74,983	93,154	112,242	136,311	149,384	154,622	159,619	
	10,272	10,751	9,406	10,771	15,598	18,185	18,171	19,088	24,069	13,073	5,238	4,997
Net Orders—	11,604	32,358	40,455	49,358	56,800	65,206	83,400	94,895	101,356	101,356	103,870	
	6,242	5,362	20,754	8,097	8,903	7,442	8,406	18,194	11,495	6,461		2,514

CALENDERED RUBBER SUNDRIES, MADE-UP

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Production—	20,396	38,523	54,633	69,555	87,787	106,004	120,458	133,941	146,886	156,345	161,835	
	10,166	10,230	18,127	16,110	14,922	18,232	18,217	14,454	13,483	12,945	9,459	5,490
Net Orders—	11,777	35,183	42,345	49,970	55,341	56,320	56,894	59,881	62,068	65,809	70,524	
	7,970	3,807	23,406	7,162	7,625	5,371	979	574	2,987	2,187	3,741	4,715

MARKETS

Manufactured Rubber Goods

NEW YORK, AUGUST 5, 1921

Conditions in the rubber industry are still improving according to recent reports received from the several manufacturing centers. This applies particularly to the manufacture of automobile tires although some slight gains have been noted in other branches of the industry.

The recent announcement from the B. F. Goodrich Co. to the effect that its directors had declared the regular quarterly dividend of one and three-quarters per cent on the preferred stock, payable October 1, was taken as a good sign by many members of the trade. In addition to declaring the dividend the Goodrich company also announce that it had reduced bank loans from $29,000,000 to $14,000,000 since the first of the year.

Production is not increasing by leaps and bounds as it did in the halcyon days of 1919 and early 1920 but is growing slowly and steadily. This in itself would seem to augur that the industry is seeking to establish itself on firm ground. Generally speaking there is an increase in optimism and it would seem that the turn in the road had been reached and that business was once more approaching the up-grade.

TIRES

Practically all of the tire manufacturing firms in the Akron district report good business and similar reports have been heard from Trenton and other rubber centers. Akron manufacturers state that dealers' orders have fallen off somewhat but this was both expected and predicted as a condition which takes place in August. Some of the plants in the rubber metropolis have reduced their output considerably but the feeling is that this will be but temporary and that production will once more increase. Statistics recently given out in Akron are to the effect that since the first of the year only 6,000,000 tires had been manufactured in that city. Inasmuch as manufacturer's stocks have been decidedly reduced and furthermore as there is every indication that there will be a good late summer and fall demand it would seem that manufacturing would have to continue at a high rate of production in order to ward off a tire shortage in the none too distant future.

MECHANICAL RUBBER GOODS

Conditions in the mechanical goods field are slightly improved although they have in no way approached the conditions existing in the tire industry. Reports received from the Trenton section are to the effect that production has increased among the manufacturers of mechanicals in that locality. Similar reports have come in from certain firms in the Akron district.

Belting and packing still show an improvement and the same may be said for hose used for mechanical purposes. The season for garden hose is over to all intents and purposes and although good business was experienced by a number of firms the total sales throughout this branch of the industry did not quite fulfill the expectations of the manufacturers.

The railroads are still holding off in their purchasing and little is being done in this field. There has been an absence of buying for railroad needs for several months and purchasing agents have been curtailing their buying to a decided degree. Just how long this will continue is problematical but the time is coming when replacements will have to be made. Manufacturers are hoping that this time is not far removed. A few manufacturers report improvement in this line which, it is stated, is due largely to the fact that the Government is making settlement of a number of claims.

FOOTWEAR

Business in footwear has been relatively good although the sales of summer footwear are practically over. With respect to the demand for winter footwear it is stated that orders have been somewhat limited in size and number. This has had its reflection on the manufacturers with the result that a number of plants, principally in the New England district, have shut down. This has ,of course, resulted in a falling off in production and a consequent limitation in point of supply. Inasmuch as buying, both on the part of wholesalers and retailers, has been of a nature calculated to supply only current needs there is grave danger of a shortage should the winter prove to be a severe one.

RUBBER CLOTHING

The present season in the rubber clothing industry has been productive of comparatively few sales. Conditions in general are similar to those obtaining in the footwear industry and results have been practically identical. Many plants throughout the country have closed down although it is reported that some of these are once more producing in limited quantity. Wholesalers and retailers are said to be well stocked with rubber clothing but it would seem that these stocks are not moving as rapidly as their owners would like to have them. A considerable number of retailers handling raincoats have held sales at reduced prices during the past few weeks but it is stated that these have not been particularly productive of returns.

RUBBER SUNDRIES

Unchanged conditions are reported in the field of rubber sundries. The season for bathing caps is over and it is stated that business in that line did not come up to expectations. Toys are still selling well, however, and rubber balls of all kinds have done remarkably well. This, of course, holds true in the case of golf and tennis balls and it is to be expected that sales of these will be good up until the middle of September when cooler weather sets in.

Druggists sundries are selling by fits and starts and it is reported that sales are of a decided intermittent nature, calculated only to take care of immediate needs. This is also the case with hospital supplies while sales of hot water bottles are off and will probably remain so until the approach of colder weather.

Cottons, Yarns and Fabrics

NEW YORK, AUGUST 5, 1921

Little change has been noticed in cotton prices during the past fortnight and the market has shown signs of growing strength. Many factors have combined to influence an increase in prices. The ending of the British coal strike has resulted in a decided increase in British buying and this coupled with the reduction in discount rates of the Bank of England as well as of the Federal Reserve banks in our own country has tended to keep prices up. In addition to the foregoing the prospects are that the cotton crop for this year will be one of the smallest in the last two decades and it is naturally expected that the law of supply and demand will have its usual influence upon the market.

It has been estimated that the supply of cotton in the United States on June 30 amounted to 7,356,341 bales as compared to 4,200,000 bales which was the average for the four preceding years. Stocks on hand at the mills, however, are given as approximately 1,204,575 bales

as compared to the previous four year average of 1,580,000 bales. Stocks in storage, presses and other places are given at 6,151,769 bales as compared to the four year average of 2,600,000 bales.

Estimates of the present cotton crop recently issued by the Journal of Commerce at an average date of July 24 show a decline in per cent condition of 0.5 per cent to 67.8 per cent. This is the lowest figure for July since 1901. The per cent condition during July 1920 was 74.8, while the ten year average for the same month amounted to 77.2 per cent.

The percentage condition by states with the comparisons is as follows:

	1921			August	
	Aug.	July.	Diff.	1920.	1919.
N. Carolina	72.0	65.5	+6.5	75.0	78.4
S. Carolina	63.5	63.1	+0.4	75.8	72.8
Georgia	63.5	64.4	—0.9	71.2	72.5
Florida	62.3	63.3	—1.0	68.3	61.8
Alabama	64.3	64.7	—0.4	71.2	67.2
Mississippi	68.7	66.6	+2.1	71.6	66.1
Louisiana	69.8	65.1	+4.7	72.4	59.2
Texas	68.8	71.5	—2.7	75.8	70.7
Arkansas	71.4	71.3	+0.1	77.0	65.8
Tennessee	71.7	72.2	—0.5	77.0	70.5
Missouri	74.0	68.8	+5.2	82.7	70.8
Oklahoma	69.3	72.6	—3.3	82.0	74.0
Average	67.8	68.3	—0.5	74.8	70.1

Following are the Government estimates and percentage conditions for July for the past ten years:

	Bales.	Acreage Planted.	Condition.
1921		26,519,000	67.8
1920	13,365,754	37,043,000	74.8
1919	11,420,763	25,133,000	70.1
1918	12,040,532	37,207,000	77.4
1917	11,302,375	34,925,000	73.3
1916	11,449,930	36,052,000	74.4
1915	11,191,820	32,107,000	77.3
1914	16,134,930	37,403,000	78.8
1913	14,156,486	37,458,000	81.8
1912	13,703,421	34,766,000	77.5
1911	15,692,701	36,681,000	86.9

One factor which would seem to react against the cotton crop is the decided increase in the damage done by insects. Rain has been plentiful in many sections of the South and this has served to increase the damage done by the boll-weevils.

PREMIUM STAPLE COTTON

Slight changes have been recorded in the demand for extra staple cotton during the period under review. Nominal prices prevail and there have been few if any changes in quotations. Generally speaking business in this branch of the market has been and continues quiet. Lack of interest is still manifested with respect to the Sea Island variety and the production of this grade is reported as being negligible.

The lack of demand for Sea Island cotton has existed for some time and this falling off has paralleled the decrease in production. The boll-weevil has worked havoc with this cotton and has made its presence felt to such an extent that the crop is negligible compared to what it used to be several years ago. Many producers of this grade have turned their attention to Meade cotton which resembles the Sea Island variety while many others have given up growing cotton altogether and are now turning their attention to the production of other crops.

EGYPTIAN COTTON

Reports received from Lower Egypt are to the effect that the plants are in good condition. The crop is reported as being about twenty days late and there has been a decided lack of water for irrigation purposes. Little trouble has been experienced from leaf worms and other pests. The same condition obtains in Upper Egypt and Fayoum. The weather has been good but the available water has been scarcely enough for the purpose. This crop is also reported as being somewhat late.

Spot demand is reported as having fallen off slightly. Optimism prevails in spite of the fact that the settlement of the British coal strike has not as yet resulted in an increase of business.

Demand for good to fully-good, good and extra staple Sakellarides is reported as being fair. High prices have been the order of the day and holders have shown but little desire to part with their stocks even at the ruling prices. It is stated that good staple cotton is becoming difficult to obtain and that considerable quantities of poorer grades are beginning to make their appearance. Uppers continue to be scarce with little change in the prices of lower grades. Stronger prices prevail for the grades above good.

Stocks of Egyptian cotton at Alexandria at the end of March were reported as amounting to 173,842,515. Exports for the first four months of 1921 totalled 104,376,472 pounds.

ARIZONA COTTON

Conditions with respect to Arizona cotton remain practically unchanged. Demand for this cotton is slight and shows but slight prospects of immediate improvement. It is furthermore reported that a fifty per cent reduction in the crop has been effected.

TIRE FABRICS

Conditions in the market for tire fabrics remain practically unchanged with practically no changes in prices for the period under review. The improvement in tire manufacturing, however, has reflected itself in the feeling which exists with the result that the market although inactive remains exceptionally firm. Transactions are not governed by market prices but for the most part prices are determined by the individual buyer and seller.

Reports from Akron, Trenton and other tire manufacturing centers indicate that there is a considerable increase in tire production under way at the present writing. When the tire slump occurred many of the manufacturers were stocked up to the limit with tire fabric. Since that time, however, many firms have succeeded in effecting decided reductions in these supplies with the result that it is only logical to suppose that they will soon be in the market for new stock. Some firms were more heavily stocked than others and this would seem to argue that the demand when it takes place will be of a steady nature, provided of course that there is not another falling off in the demand for tires. Such a condition appears to be unlikely at the present time and it would seem that the producers of tire fabric would view the future more optimistically than they have for some time past.

DRILLS, SHEETINGS AND OSNABURGS

Few if any changes have been noted during the last two weeks. Good business has been recorded in 40-inch, 3.60 yard sheetings at 8½ cents and in the 40-inch, 3.15 yard at 10¼ cents. The market for drills is reported to be without any outstanding feature and there has been little change in the prices of the grades used by rubber manufacturers. Business in burlaps has exhibited more activity during the fortnight than at any other time during the past three months. Prices are reported as being the lowest quoted during the year for a number of items. Reports from Calcutta are to the effect that the new jute crop will be about fifty per cent of normal.

If this condition is correct it would seem that an increase in prices would be in order by the time this crop begins to be manufactured into fabric.

HOSE AND BELTING FABRICS

Enameling duck prices are now quoted at .28 to .30 as contrasted to the .30 quotation which ruled two weeks ago. Otherwise prices remain unchanged. Good business is being enjoyed by manufacturers of belting and hose and it is to be expected that this will eventually react upon the fabric market.

TIRE FABRICS (Square Woven)

17¼-ounce Sea Island, combed,	lb.	.90 to .95 (Nominal)
17¼-ounce Egyptian uppers, combed,	lb.	.70 to .75
17¼-ounce Egyptian uppers, carded,	lb.	.65 to .70
17¼-ounce Sakellarides, combed,	lb.	.71 to .76
17¼-ounce Sakellarides, carded,	lb.	.66 to .71
17¼-ounce Peelers, combed,	lb.	.65 to .70
17¼-ounce Peelers, carded,	lb.	.60 to .65

CORD FABRICS

Combed Sakellarides	lb.	.76	@	.81
Carded Sakellarides	lb.	.71	@	.76
Combed Peeler	lb.	.71	@	.76
Carded Peeler	lb.	.56	@	—
Carded Arizona	lb.	.70	@	.75
Combed Egyptian uppers	lb.	.76	@	.81
Carded Egyptian uppers	lb.	.70	@	.75

CHAFER FABRIC

9¼-ounce Sea Island		$1.00	(Nominal)	
9¼-ounce Egyptian, combed		.70	@	.72
9¼-ounce Egyptian, carded		.65	@	.67½
9¼-ounce Peeler, combed		.67½	@	.70
9¼-ounce Peeler, carded		.65	@	.67½

DUCKS

Belting (pound basis)	lb.	.25	@	—
Hose (pound basis)	lb.	.25	@	.26
*Enameling	lb.	.25	@	.28
Shoe Ducks	lb.	.28	@	.30
Single filling	yd.	.10	@	.13½
Double filling	yd.	.13	@	.14

*Price varies according to width.

DRILLS

37-inch	3.25-yard	yd.	.06¾	@	.07¼
37-inch	2.75-yard	yd.	.08	@	.08¼
37-inch	3.00-yard	yd.	.07¼	@	.07½
37-inch	3.50-yard	yd.	.07	@	—
37-inch	3.95-yard	yd.	.06½	@	.07

OSNABURGS

30-inch	7-ounce	.06½	@	.07
40-inch	7-ounce	.08	@	.09

SHEETINGS

40-inch	2.35-yard	yd.	.10½	@	.11
40-inch	2.50-yard	yd.	.09½	@	.10
40-inch	2.85-yard	yd.	.08¼	@	.08½
40-inch	3.15-yard	yd.	.10¼	@	.10½
40-inch	3.60-yard	yd.	.07¾	@	.08
40-inch	3.75-yard	yd.	.08½	@	.08¾
40-inch	4.25-yard	yd.	.06½	@	—

BURLAPS (Carload Lots)

7 -ounce	40-inch	yd.	3.40	@	——
7½-ounce	40-inch		3.40	@	——
7½-ounce	45-inch		4.25	@	——
8 -ounce	40-inch		3.50	@	——
8½-ounce	40-inch		3.75	@	——
10 -ounce	36-inch		4.15	@	——
10 -ounce	40-inch		4.30	@	——
10 -ounce	45-inch		5.25	@	——
10½-ounce	40-inch		4.35	@	——

Chemicals and Compounding Materials

THE GENERAL MARKET—August 5—Consumers still hold to a conservative course in purchasing and orders are for small lots from this class of buyers. The market and volume of sales to jobbers, however, has broadened somewhat during the past two weeks and this in itself reflects a better feeling in selling circles. The demand from the textile industry has been limited but a continued improvement has been noted with respect to the rubber industry, due to improvement in tire production in Akron and other centers. The prospective tariff has had little effect on the market. Sentiment has changed considerably since early July and the general feeling is more optimistic.

ACCELERATORS

Organic

Aldehyde ammonia, crystals	lb.	$ .95	@ 1.00
Aniline oil, bulk basis	lb.	.21	@ .25
Excellerex	lb.	.60	@ .65
Formaldehyde-aniline	lb.	.60	@ .65
Hexamethylene-tetramine (powdered)	lb.	.95	@ 1.00
Paraphenylene-diamine	lb.	1.75	@ 2.00
Thiocarbanilid	lb.	.45	@ .50
Vulcocene	lb.	.35	@ ..

Inorganic

Lead, dry red, bbls.	lb.	.10	@ —
Lead, sublimed white	lb.	.07¼	@ .07½
white, basic carbonate	lb.	.07½	@ .08
Litharge, commercial, bbls.	lb.	.08¼	@ .08½
Lime, hydrated	lb.	.01½	@ .02½
Magnesia, calcined, extra light	lb.	.45	@ .55
heavy	lb.	.06	@ .06½
Magnesite, powdered	ton	50.00	@ 70.00

COLORS

Blacks			
Bone, powdered	lb.	.06½	@ .08½
Carbon black	lb.	.10½	@ .20
Drop	lb.	.07½	@ .16
Ivory	lb.	.15	@ .45
Lampblack	lb.	.15	@ .45
Blues			
Prussian	lb.	.50	@ .60
Ultramarine	lb.	.16	@ .35
Cobalt	lb.	.25	@ .30
Rubber maker's blue	lb.	3.50	@ ..
Browns			
Iron oxide	lb.	.04	@ .06
Sienna, Italian, raw and burnt	lb.	.06½	@ .12
Umber, Turkey, raw and burnt	lb.	.05½	@ .06½
Greens			
Chrome, light, c. p.	lb.	.32	@ .34
medium	lb.	.34	@ .39
dark	lb.	.43	@ .46
oxide	lb.	.55	@ .65
Reds			
Antimony, crimson sulfuret	lb.	.50	@ .55
red	lb.	.25	@ .28
golden	lb.	.25	@ .30
Indian, pure	lb.	.13½	@ .16
oxide, copperas, pure	lb.	.13½	@ .15½
reduced	lb.	.11½	@ .12½
Para toner	100 lb.	1.40	@ —
Toluidine toner	lb.	3.25	@ 3.50
Tuscan	lb.	.17½	@ .30
Venetian	lb.	.02½	@ .04½
Vermillion, English, quicksilver	lb.	.90	@ .95
domestic	lb.	.25	@ .30
Whites			
Albalith	lb.	.07¼	@ .07½
Aluminum bronze	lb.	.60	@ .65
Lithopone, Beckton white	lb.	.07	@ .07½
Lithopone, domestic (factory)	lb.	.07	@ .07½
Ponolith (carloads, factory)	lb.	—	@ —
Rubber-makers' white	lb.	—	@ —
Zinc oxide, French process, White seal	lb.	.11	@ .11¼
Green seal	lb.	.10	@ .10¼
Red seal	lb.	.09	@ .10½
Yellows			
Cadmium sulphide	lb.	1.10	@ 1.35
Chrome, light, c. p.	lb.	.21	@ —
dark	lb.	.21	@ —
medium	lb.	.21	@ —
Ocher, French	lb.	.03½	@ .04
domestic strong	lb.	.03	@ .05
Zinc chromate	lb.	.35	@ .40

COMPOUNDING INGREDIENTS

Aluminum flake, bags	ton	25.00	@ 32.00
bbls.	ton	33.00	@ —
Aluminum silicate	ton	16.00	@ 18.00
Ammonium carbonate, powdered	lb.	.07½	@ .09½
Barium d ust	lb.	.05	@ —
Barytes, Southern off-color, f.o.b. mills	ton	16.50	@ 18.00
Western, prime white, f.o.b: mills	ton	24.50	@ 26.50
Basofor	lb.	.05	@ —
Beta-naphtol, technical	lb.	.40	@ —
Blanc fixe, dry, f.o.b.works	lb.	.04	@ .04½
Chalk, precipitated, extra light	lb.	.03½	@ .04¼
heavy	lb.	.02½	@ .03½
Clay, China, domestic	ton	7.50	@ 9.00
imported	ton	16.00	@ 24.00
Dixie	ton	22.00	@ 35.00
Blue Ridge	ton	22.00	@ 35.00
Formaldehyde	lb.	.12¾	@ .13
Fuller's Earth, powdered	ton	22.00	@ ..
Fossil flour	ton	60.00	@ ..
Glues, extra white	lb.	.30	@ .40
medium white	lb.	.24	@ .30
cabinet	lb.	.20	@ .35
cabinet low grade	lb.	.16	@ .18
common bone	lb.	.13	@ .19
Graphite flake, bbls.	lb.	.10	@ .12
powdered	lb.	.05	@ —
Ground glass, fine	lb.	.03½	@ .04
Infusorial earth, powdered	lb.	.02½	@ .03
bolted	lb.	.03½	@ ..
Liquid rubber	lb.	.15½	@ .16
bbls.	lb.	.07¼	@ —
Napthalene flakes	lb.	.07	@ .08
Rotten Stone	lb.	.02½	@ .04½
Silica (aluminum)	ton	25.00	@ 30.00
Soapstone, powdered	ton	15.00	@ 20.00
Starch, powdered corn	cwt.	2.33	@ 3.00
Talc, domestic	ton	18.00	@ 20.00
French	ton	22.50	@ 30.00
French, high grade	ton	40.00	@ 45.00
Italian	ton	40.00	@ 45.00
Terra Alba, American No. 1	cwt.	1.85	@ 2.00
American No. 2	cwt.	1.25	@ ..
Tripoli	ton	25.00	@ —
Whiting, domestic	cwt.	.75	@ .80
Quaker	ton	13.00	@ 15.00
English chalk, commercial	cwt.	1.15	@ 1.20
glider's bolted	cwt.	1.25	@ 1.35
Paris white	cwt.	1.35	@ 1.45
Zinc Oxide— 10 per cent lead sulphate	lb.	.07	@ .07½
20 per cent lead sulphate	lb.	.07	@ .07½
35 per cent lead sulphate	lb.	.07	@ .07½
Zinc sulphate		.03¼	@ .03½

MINERAL RUBBER

Gilsonite	ton	70.00	@ —
Genasco (c. l. factory)	ton	50.00	@ —
(l. c. l. factory)	ton	52.00	@ —
Hard hydrocarbon	ton	35.00	@ 45.00
Soft hydrocarbon	ton	35.00	@ 40.00
M. R. X.	ton	—	@ —
Pioneer (c.l. factory)	ton	—	@ —
(l. c. l. factory)	ton	—	@ —
Raven M. R.	ton	—	@ —
320 M. P. hydrocarbon (c. l. factory)	ton	50.00	@ 55.00
(l. c. l. factory)	ton	57.50	@ —
300/310 M. P. hydrocarbon (c. l. factory)	ton	40.00	@ —
(l. c. l. factory	ton	45.00	@ —
Synpro, granulated, M. R. (factory)	ton	77.50	@ —

SOFTENERS

Acids			
Acetic, 28 per cent	cwt.	2.50	@ 2.75
Carbolic (phenol)	lb.	.09½	@ .12
Cresylic, 97 to 99 p. c. pale	gal.	.80	@ —
Muriatic, 20 degrees	cwt.	2.00	@ —
Nitric, 36 degrees	cwt.	5.50	@ 6.00
Sulphuric, 66 degrees	ton	18.00	@ 20.00
60 degrees, bulk	ton	11.00	@ 12.00
Tartaric, crystals	lb.	.28	@ .30
Alkalies			
Caustic soda, 76 p.c.	cwt.	4.15	@ 4.25
Soda ash, 58 p.c.	cwt.	2.15	@ 2.25
Oils			
Castor, No. 3, bbls.	lb.	.08½	@ .09½
Corn, crude, bbls.	lb.	.07	@ .08
refined	lb.	.09¼	@ .09¾
Chinawood, bbls	lb.	.13½	@ .14½
Cottonseed,	lb.	.09½	@ .10
Glycerine, c. p. drums	lb.	.14½	@ .15½
Linseed, carload spot	gal.	.71	@ —
bbls.	gal.	.76	@ —
Palm, Niger	lb.	.05¾	@ .06
Lagos	lb.	.06¾	@ .07
Peanut, domestic crude	lb.	.06	@ .06¼
Pine, steam distilled, over .933 sp. gr.	gal.	1.30	@ 1.35
Rapeseed, refined	gal.	.88	@ .90
blown	gal.	1.00	@ 1.05
Rosin, first rectified	gal.	.35	@ .60
second rectified	gal.	.38	@ .45
Tar, commercial	gal.	.35	@ .37
Soya Bean, crude, bbls.	lb.	.08	@ .08½
Resins and Pitches			
Cantella gum	lb.	.50	@ ..
Cumar resin	lb.	.09	@ .13
Tar, retort	bbl.	12.00	@ —
kiln burnt	bbl.	11.50	@ —
Pitch, Burgundy	lb.	.05	@ .06
coal tar	ton	20.00	@ —
rosin	bbl.	6.75	@ 7.00
Rosin, grade B. ex-yard	bbl.	4.90	@ —
grade K	bbl.	6.00	@ —
Shellac	lb.	.70	@ —
fine orange	lb.	.84	@ .90
Solvents			
Acetone, drums, c.p.	lb.	.12½	@ .13
Alcohol, denatured, No. 1	gal.	.37	@ .38
Methyl, 95 per cent, drums	gal.	.75	@ .77
Ethyl, 190 proof, drums	gal.	4.65	@ 4.75
Benzol, 90 per cent	lb.	.25	@ .31
pure	lb.	.27	@ .35
Carbon bisulphide	lb.	.06¾	@ .07½
tetrachloride	lb.	.10½	@ .12
Dimethylaniline	lb.	.42	@ .44
Naptha, motor gasoline, steel bbls.	gal.	.23½	@ —
68 to 70 degrees	gal.	.35	@ .35½
70 to 72 degrees	gal.	.36½	@ ..
73 to 76 degrees	gal.	.37½	@ .38½
machine, steel bbls.	gal.	.43½	@ .47½
solvent, crude, heavy	gal.	.24	@ —
Phenol	lb.	.09½	@ .12
Toluol, pure drums	gal.	.28	@ .34
Turpentine, spirits, ex-yard	gal.	.61	@ —
wood	gal.	.59	@ —
Xyol, pure	gal.	.40	@ .43
commercial	gal.	.28	@ .33
Waxes			
Beeswax white, pure	lb.	.54	@ —
Carnauba, No. 1	lb.	.41	@ .42
Ceresin, white	lb.	.14	@ —
Bayberry	lb.	.20	@ .22
Montan, crude	lb.	.06½	@ .07
Ozokerite, hard, pure	lb.	.30	@ .33
Paraffin, pale, .885 sp. gr.	lb.	.18	@ .21
Petrolatum, amber, bbls.	lb.	.05	@ .05½
dark amber,	lb.	.04½	@ —

SUBSTITUTES

Black	lb.	.08	@ .15
White	lb.	.10	@ .17
Brown	lb.	.12	@ .16
Brown factice	lb.	.07	@ .15
White factice	lb.	.09	@ .18
Paragol, soft and medium	cwt.	8.81	@ —
hard	cwt.	8.81	@ —

VULCANIZING INGREDIENTS

Lead, black hyposulphite (black hypo)	lb.	.40	@ —
Orange mineral, domestic	lb.	.11¾	@ .13½
Sulphur chloride (jugs)	lb.	.16½	@ .20
Sulphur, flour, Bergenport (drums)	lb.	.06½	@ .08
(carloads, factory)	cwt.	2.55	@ —
pure soft	cwt.	2.30	@ —
superfine (carloads factory)	..		

Aniline Oil—The market seems to have an easy tone but dealers continue to demand 21 to 25 cents per pound. Purchases by consumers have been limited to relatively small quantities.

Phenol—Demand has fallen off considerably and the market continued sluggish with U.S.P. goods quoted at 10c per pound.

Toluol—Quotations advanced slightly to 28 @ 34 and the sentiment is quite bullish owing to a shortage of supplies being felt in this market.

Carbon Tetrachloride—There was some improvement in this solvent as well as in the bisulphide. Producers quoted 10½ @ 12 cents and resale stocks were available at 10 cents.

Caustic Soda—The same easy tone characterizes the market for caustic soda. There was no further shading of prices.

Talc—All grades are in fair demand. Consumption of domestic grades seem to be increasing with latest quotations $18 @ $20 per ton.

Whiting—Only a fair demand with no changes in inquiries or prices.

Benzol—The inactivity of the steel mills and consequent reduction in the production of coke has produced a scarcity of the better grades of Benzol. There has been an active market and advancing prices.

Zinc Oxide—A somewhat more active demand prevailed early in the month due entirely to a reduction in prices.

Blanc Fixe—Producers are more engaged and deliveries are being made regularly. The market shows improvement.

Lithopone—A good demand prevails and prices continue firm. The producers of lithopone have no cause to complain about the market.

Soda Ash—Demand continues rather slow but with no particular selling pressure.

Litharge—There has been an inactive market for litharge. Stocks moving slowly with no change in prices.

Scrap Rubber

NEW YORK, AUGUST 5, 1921

Operations in the scrap and reclaimed rubber markets have run down to a low point on account of the crude rubber situation. Market quotations are nominal. Prices on carload lots delivered on this date are practically unchanged from our last report:

	Cents per Pound
Auto tire peelings	.02 @ .02¼
Standard White auto	.02¼ @ .02⅜
Mixed auto	.01¾ @ .01½
Bicycle tires	.01¾ @ .01½
Solid tires	.02 @ —
Boots and Shoes	.03½ @ .04
Arctics, trimmed	.02¾ @ .03
Arctics, untrimmed	.02 @ .02¼
Battery jars, black compound	.01½ @ .02
No. 1, bright fracture	.12 @ .13
Inner tubes, No. 1	.06 @ .06¼
Inner tubes, compounded	.04 @ .04¼
Inner tubes, red	.04 @ .04¼
Heels and pads	.02 @ .02¼
Black scrap, mixed No. 1	.02¼ @ .03
Black Scrap, mixed No. 2	.01½ @ .02
Garden hose	.01 @ .01½
Air brake hose	.01 @ —
Red packing	.03½ @ .04
Red Scrap, No. 1	.04 @ —
Red Scrap, No. 2	.03½ @ —
White Scrap, No. 1	.05½ @ .06
White Scrap, No. 2	.03 @ —

Crude Rubber

NEW YORK, AUGUST 5, 1921

The outstanding feature of the crude rubber market in New York at this writing is a decided strengthening in the demand for Para grades and a consequent stiffening in the prices. Up-river fine is selling for .18½, up-river coarse for .10, and Caucho Ball for .10½ to .11. These prices represent an increase of about one cent a pound over the prices prevailing a fortnight ago in comparison with a decrease of about three quarters of a cent a pound on Plantation grades.

Close observers of the market for many months have been of the opinion that the market is due for a real shortage of South American rubbers. Importations into this country for the first six months of 1921 have been reduced one half as compared with the first six months of 1920. Importations January to June inclusive, 1921, were 6,602 tons as compared with 12,809 tons imported during the corresponding period of 1920.

Expeditions are not being sent up the South American rivers to take the rubber out, as it costs from 45 to 50 cents a pound to land this rubber at an American or European market, and the present price of 18 cents a pound is regarded as ruinous.

English and German manufacturers have always favored Para grades, and some manufacturers in the United States find them indispensable in their business. There has been considerable buying, it is known, on the part of American manufacturers in anticipation of a shortage, and the fact that Caucho Ball was selling in Para one day recently for from one to one and a half cents a pound more in Para than in New York was taken to indicate decided interest on the part of European buyers.

In Plantation grades the market has been characterized by fluctuations showing in general a slight depression over prices prevailing the middle of July has been the record of the New York crude rubber market during the past fortnight. On this date spot ribbed smoked sheets were selling for 14½ to 14¾ and first latex for 15¾. During the latter part of July spot ribs sold as low as 13¾, although little business is reported at any figure less than 14.

Interest on the part of manufacturers has been small, most of the business transacted being inter-market.

Plantations		
Smoked sheets, ribbed, spot	.14½ @	.14¾
Sept. sheets	.14¾ @	.15
Oct.-Dec. sheets	.15 @	.15⅛
Jan.-Mar.	.16½ @	—
Jan.-June	.17½ @	—
April-June	.18½ @	—
Smoked sheet plain, spot	.12 @	—
First latex pale crepe, spot	.15¾ @	—
Sept. latex	.16 @	—
Oct.-Dec. latex	.16½ @	—
Amber crepe, No. 1	.13½ @	—
Amber crepe, No. 2	.12½ @	—
Amber crepe, No. 3	.11½ @	—
Grand Central crepe	.10½ @	—
Clean brown crepe	.12 @	—
Light clean brown crepe	.13 @	—
Roll brown crepe	.10½ @	—
Paras		
Up-river fine	.18½ @	—
Up-river medium	.14¾ @	—
Up-river coarse	.10 @	—
Islands fine	.16½ @	—
Islands coarse	.08 @	—
Caucho ball	.10½ @	.11
Madeira fine	.20 @	—
Cameta	.09 @	—
Centrals		
Corinto prime	.06½ @	—
Esmerelda prime	.06½ @	—
Guayule wet	.15* @	—
Guayule, washed and dried	.26* @	—
Africans		
Loando Niggers	.07 @	—
*No. 1 Benguella	.07 @	—
*No. 2 Benguella	.06¼ @	—
Lapori Ball	.10 @	.10½
Balata		
Panama Block	.25 @	—
Surinam Sheets	.68 @	.70
Columbian Block	.35 @	.39
Pontianac		
Prime	.11½ @	—
Bangermassin	.06¼ @	—
Palembang	.06¾ @	—

*Nominal

Reclaimed Rubber

NEW YORK, AUGUST 5, 1921

Reclaimers are reported to be operating on a 25 per cent basis, but are looking for better business in the fall when it is believed general manufacturing conditions in the industry will have reached a normal level.

Considerable rubber shoddy is being shipped in less than carload lots. Freight regulations now provide that it must be shipped in bags, bales, barrels or boxes, but it is expected the official freight classification committee will shortly alter these regulations to allow shipments of shoddy in less than carload lots east of the Mississippi and north of the Ohio river when shipped in rolls or slabs.

Quotations on this date are nominally as follows:

Standard Reclaims		
Floating	$.14 @	$.15
Friction	.14 @	.15
Mechanical	.09 @	.11
Hose	.11½ @	.12
Tires, truck	.09 @	.10
Tires, auto	.11½ @	.13
White	.14 @	.15

American Rubber Patents

ISSUED JULY 5, 1921

1,383,458—To Truman D. Frazier, Marins Ferry, Ohio. Pneumatic tire.

1,383,612—To Peter Evancho, Oneida, Pa. Pneumatic-tire protector.

1,383,763—To Walter E. Sanders, Trenton, N. J., assignor to Essex Rubber Co., Inc., Trenton, N. J. Resilient heel.

1,383,818—To Dee W. Kirby, Gurdon, Ark. Cushion tire.

1,383,822—To Vratislay Kublelka, Ridgewood, Brooklyn, N. Y. Tire.

1,383,857—To Harry Charles Ridout, Bourne mouth, England. Mold for making heels, lifts, soles or other articles from rubber or other material.

1,383,962—To James Harian Mills, Gallipolis, Ohio. Inner-tube receptacle.

ISSUED JULY 19, 1921

1,384,759—To Edison G. Hulse, Cumberland, Md., assignor to the Kelly-Springfield Tire Co., Cumberland, Md. Vehicle-tire.

1,384,773—To Stuart B. Molony, Wellesley Hills, Mass. Utilizing vulcanized waste rubber.

1,384,817—To Julian M. Baker, Tarboto, N. C. Tire-armor.

1,385,055—To William O. Vivarttas, Weehawken, N. J. Dust-cap for pneumatic tires.

1,385,079—To Robert R. Jones, Akron, Ohio, assignor to Firestone Tire & Rubber Co., Akron, Ohio. Method of removing tires from rims.

1,385,095—To Fred Thomas Roberts, Cleveland, Ohio, assignor to Paramount Rubber Consolidated, Philadelphia, Pa. Inflatable rubber article.

1,385,333—To Albert A. Bush and Richard H. Freitag, Akron, Ohio, assignors to Firestone Tire & Rubber Co., Akron, Ohio. Machine for engraving molds.

ISSUED JULY 12, 1921

1,384,134—To Norman Jackson, Washington, D. C. Pneumatic tire.

1,384,243—To Reuben B. Disbrow, St. Paul, Minn. Puncture-proof tire-insert.

1,384,244—To Reuben R. Disbrow, St. Paul, Minn. Inner tube.

1,384,262—To Chauncey L. Landon, Akron, Ohio, assignor to the Goodyear Tire & Rubber Co., Akron, Ohio. Tire-tread.

1,384,358—To William F. Staggers, Manninton, W. Va. Anti-skid device for auto tires.

1,384,362—To John Traum, Coshocton, Ohio. Vulcanizing device.

1,384,400—To Arthur Nixon, Manchester, England. India-rubber composition.

1,384,419—To Adrian O. Abbott, Jr., assignor to Morgan & Wright. Tire-loosening machine.

1,384,463—To Archer H. Harris, Barberton, Ohio, assignor of one-half to Evan A. Armstrong, Akron, Ohio. Tire-supporting device for tire-molds.

1,384,508—To Walter A. Black, Rocky Ford, Colo. Tire-core.

1,384,551—To Amel B. Broluska and Harry A. Broluska, Detroit, Mich., assignors of one-half to Cyril Cailliau, Detroit, Mich. Vehicle-tire.

1,384,678—To William B. Shaw, New York, N. Y. Resilient tire.

Akron Stock Prices

(Special Akron Correspondence)

Akron rubber stocks continue to climb upward as sales are recorded on the local and Cleveland exchanges. Firestone, Goodyear, Goodrich and Miller are the leaders. Goodyear common has passed the 13 mark in its upward march and preferred is changing hands well over 30.

Following are the quotations:

	Bid	Asked
Amer. R. & T. com	30	40
Amer. R. & T. pfd.	..	80
Amazon Rubber	..	20
Firestone T. & R. com	60	65
do 6 pct. pfd.	80	85
do 7 pct. pfd.	68	..
General T. & R. com	..	200
do 7 pct. pfd.	75	85
B. F. Goodrich com	32	33½
do 7 pct. pfd.	70	72
do 5 yr. 7 pct. notes	89½	90
Goodyear T. & R. com	12½	13
do 7 pct. pfd.	29½	32
Goodyear 8's	101	102
India Rubber com	62	75
do 8 pct. pfd.	70	80
Mason T. & R. com	12	13
do 7 pct. pfd.	53	55
Marathon T. & R. com	2½	3½
Miller Rubber com	58	..
do 8 pct. pfd.	62	66
Mohawk Rubber	70	80
Portage Rubber com	..	10
do 7 pct. pfd.	5	5½
Republic Rubber com	¼	½
do pct. pfd.	9¼	..
do 8 pct. pfd.	3¾	5
Rubber Products	..	50
Star Rubber com	..	100
do 8 pct. pfd.	..	100
Swinehart T. & R. com	..	40
do 7 pct. pfd.	..	70
Phoenix Rubber com	..	15
do pfd.	..	90
Standard Tire com	..	100
do pfd.	..	90

New York Stock Prices

Following are the New York Stock Exchange quotations on the various rubber stocks listed for August 5:

	Bid	Asked
Ajax Rubber Co	21¾	23
Fisk Rubber Co	9¾	9½
Kelly-Springfield Tire Co	40½	41
do 8 pct pfd	80	81
Keystone Tire Co	13⅝	13⅞
Lee Rubber & Tire Co	26¼	26¾
U. S. Rubber Co	52⅛	52⅜

New Incorporations

NEW YORK

Lawrence Tire Service Co., Inc., to deal in automobile tires, $10,000. S. and B. Zerman, Far Rockaway; J. Zerman, Long Island City, New York. To deal in automobile tires, etc.

Charles E. Campbell, Inc., Elmhurst, L. I., to make rubber goods. $50,000.00 Incorporators; C. E. Campbell & K. K. Hillabrant, Great Neck, L. I. I. G. Wolf, 1270 Broadway, New York City. Attorneys Bauchler & Ganty, 51 Chambers St., New York.

The Found Tire Service, to make tires. $10,000.00. Incorporators; W. H. Katz, C. J. Cochran, B. Zwilling. Attorneys, Talley & Kunstler, 233 Broadway, New York.

Buffalo Auto Motive Specialty Co., Buffalo, $5,000. Incorporators: E. J. and M. H. Schork, E. M. Allen; Attorney T. W. Van Arsdale, Buffalo.

Solimine Rubber Heel Co., Inc., to manufacture rubber heels $50,000. C. and A. A. Pellegrino, both of 509 Dean street; C. Solimine, 539 Bergen street; Brooklyn, New York. Principal office, Brooklyn, New York. Broderick-Lally Tire & Rubber Co., to manufacture tires, $50,000. T. A. Broderick; M. J. Lally, 201 West 38th street; T. L. Hurley, 42 East 11th street, New York City.

Clark Rubber Syndicate, Inc., to manufacture re-treads, $50,000. I. D. Allen, 150 North Union street; F. P. Dunham, 5 Chapin street; S. A. Millington, 57 Huntington Park, Rochester, New York. Principal office, Rochester, New York.

Bronx Solid Tire Co., Inc., to deal in tires, $15,000. L. A. Allers; L. Biel, both of 27 Cedar street; J. V. Kilroe, 230 West 116th street, New York City.

Enterprise Tire & Supply Co., to manufacture tires, $6,000. M. A. Ryan, 16 East 48th street; F. D. Braisted, 149 West 84th street, and M. J. Sherlock, 261 West 69th street, New York City.

Edgar Storms Corp., to manufacture tires, $100,000. J. F. Forrester and L. Dertz, 95 Madison avenue; E. Storms, 10 Central Park West, New York City.

NEW JERSEY

Hartford Auto Products, Inc., to distribute auto supplies and accessories. $50,000. L. G. Chandler, president and G. W. Burbery, treasurer, 332 Broad street; H. Isherwood, secretary, 738 Broad street, Newark, New Jersey. Principal office, 738 Broad street, Newark, New Jersey.

Tire Service Co., New Brunswick, to deal in automobile tires. $50,000. Incorporators John A. Smith, James A. Hennsy, William F. Drury, New Brunswick.

The Hudson Garter Co. Newark. To manufacture, buy, sell export and import all manner of rubber goods. $100,000. Incorporators, Joseph Shulman, of Newark, Jacob Shulman of Harrison, Ike Hantman of Harrison and Max H. Cooper of 322 East 92nd St., New York.

The New Jersey Chemical and Rubber Works, Newark, to manufacture chemicals and rubber specialties. $100,000.

Morgan Motor Car Co., Newark, $50,000. Incorporators, William J. Morgan, Roy F. Junn, Newark, William C. Urbans, Arlington.

United Tire Co., Trenton, to manufacture motor vehicles. $10,000. Incorporators: Abe Black, Peter M. Dorsey, Harry Davidson, Trenton.

Miller-Steiner Rubber Co., to manufacture mechanical rubber goods, $100,000. J. M. Miller, president; G. W. Page, treasurer; J. D. Steiner, vice-president and secretary. Principal office, 678 North Olden avenue, Trenton, New Jersey.

DELAWARE

Standard Carrier Co., to manufacture tire carriers. $100,000. Incorporators, Joseph Smith, Samuel C. Adams, Charles T. Rouss, Philadelphia. Attorneys, Capital Trust Co. of Delaware.

Self-Sealing Auto Tube Co., to manufacture inner tubes. $850,000. Incorporators: H. C. Adam, H. A. Sperry, and M. A. Behrend. and Consumers Tire & Rubber Co., to deal in tires, tubes, etc. $500,000. M. M. Lucey, V. P. Lacey and L. S. Dorsey, Wilmington. Delaware. Agent, Colonial Charter Co., 927 Market street, Wilmington, Delaware.

Yale Tire Co., to manufacture tires. $100,000. Corporation Service Co., Wilmington.

Sinar Rim Corp., to manufacture patented automobile rims. $500,000. F. R. Hansell and J. V. Pimm, Philadelphia, Pennsylvania; E. M. MacFarland, Camden, New Jersey. 927 Market street, Wilmington, Delaware.

Biddle Crane Motor Car Co., $600,000. Attorneys Corporation Trust Co. of America, Wilmington.

National Consolidated Rubber Co., $750,000. J. M. Frere, J. A. Frere and M. A. Alexander, Wilmington, Delaware. Agent: American Guaranty & Trust Co., 206 West 9th street, Wilmington, Delaware.

MASSACHUSETTS

Genuine Rubber Co., Saugus, to manufacture leather substitutes and rubber goods. $50,000. Incorporators: Gustav E. Dahlen and Paul V. Lindstrom of Sagus and Ernest L. Castle of Lynn.

Columbia Tire Corp. Boston, to manufacture tires. $100,000.

Converse Tire Co. to manufacture tires. $1,000,000.

Crosby & Collins Pharmacy, Inc., $30,000. M. F. Ford, 20 Williams avenue, Hyde Park; T. J. G. Armstrong, 37 Partridge avenue, Somerville; G. M. Faulkner, 1870 Commonwealth avenue, Brighton—all in Massachusetts. Principal office, Boston, Massachusetts. To manufacture and deal in drugs and druggists' sundries.

Essandell Tire Co., to deal in rubber goods, $250,000. F. G. Saylor, Sea &Bayview avenue and W. McLean, 30 Chestnut street, Quincy; G. A. Lufkin, 173 Shirley avenue, Principal office, Boston, Massachusetts.

Hurley Tire Co., to manufacture and deal in tires, tubes, etc. $15,000. D. J. Hurley, 27 Asticou Road and M. G. Downey, 430 Centre street, Jamaica Plain; A. Perreault, 352 Washington street, Dorchester; E. Ehler, 189 West Newton street, Boston. Principal office Boston, Massachusetts.

Robinson Anti-Splash Tire Co., to manufacture Robinson Anti-Splash tire, $200,000. C. A. Robinson, 3960 Washington street, Roslindale; J. P. Sylvia, Jr., 1460 Blue Hill avenue, Boston; J. A. Coveney, 103 Walnut avenue, Roxbury. Principal office, Boston, Massachusetts.

FLORIDA

Peninsula Tire & Rubber Co., Tampa, $1,500,000.

KENTUCKY

At-Your-Service Tire Co., to deal in automobile tires, tubes, and accessories. $75,000. A. L. Smith; A. E. Lang; B. B. Mahan; S. M. Don; C. M. Cummins, Louisville. Principal office, Louisville, Kentucky.

MISSOURI

Duplex Tire & Rubber Co., to manufacture rubber goods, $1,000,000. R. W. Crissey, president; C. A. Carlton, secretary and factory manager; R. Coonts, treasurer; L. A. Tooker, vice-president. Principal office, 322 Frisco Building, Joplin, Missouri.

PENNSYLVANIA

Penn Rubber Products Corp., to manufacture rubber and rubber products $500,000. Incorporators F. R. Hansell, J. Vernon Pimm, E. M. McFairland, Philadelphia. (Corporation Guarantee and Trust Co.)

RHODE ISLAND

The Apex Tire & Rubber Co., Providence. Authorized capital $250 shares of stock without par value. Incorporators, David W. Smith, John M. Frank and Charles H. Sprague.

TEXAS

The India Tire & Rubber Co., Dallas, $20,000. Incorporators, J. M. Aldefer, B. L. Corbett and J. J. Moran.

WASHINGTON

J. F. & S. M. Tire Corporation, to manufacture tires, $300,000. J. F. Mora, president, Pittsburg, Calif.; J. F. Stranahan, vice-president; N. Canevara, secretary; G. Todaro, treasurer. Principal office, Seattle, Washington.

WEST VIRGINIA

Economy Tire Service Shop, Fairmount, $25,000. Incorporators: W. F. Amos, Paul E. Amos, Clifford Kinkead, Estella F. Kinkead and James H. Kinkead of Fairmount W. Va.

WISCONSIN

Non-Breakable Button Corporation, to manufacture rubber buttons, $100,000. S. F. Dietrich, president, 541 Plankinton avenue, Cudahy; C. W. Moebius, vice-president, 530 Linnwood avenue, Milwaukee; L. Ehlert, secreary; W. Pfleger, treasurer. Principal office, 200-210 Pleasant street, Milwaukee, Wisconsin.

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